

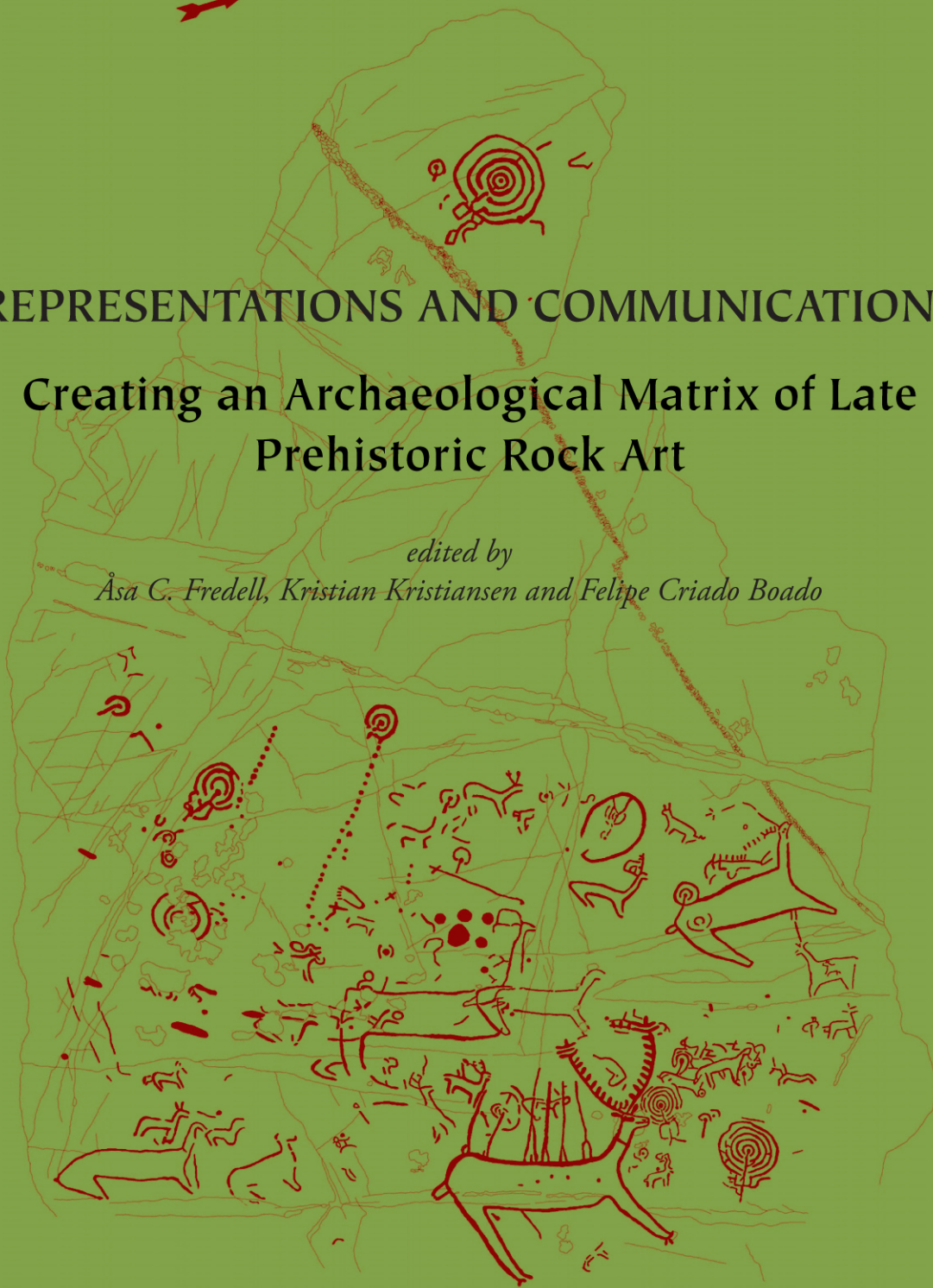


REPRESENTATIONS AND COMMUNICATIONS

Creating an Archaeological Matrix of Late Prehistoric Rock Art

edited by

Åsa C. Fredell, Kristian Kristiansen and Felipe Criado Boado



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SARA VOLUME I

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*Creating an Archaeological Matrix of Late
Prehistoric Rock Art*

edited by

Åsa C. Fredell, Kristian Kristiansen and Felipe Criado Boado

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Preface

This book is the product of a fruitful four-year-long project collaboration between the archaeology department at the University of Gothenburg and the Laboratory of Heritage (LaPa) of the Spanish National Research Council (CSIC) in Santiago de Compostela in Galicia between 2002 and 2006. Both areas have a rich heritage of Bronze Age rock art, and the project led to the development of new innovative ways to perceive, excavate and understand this material. In western Sweden, the numerous rock art sites had already led to the declaration of Tanum as a World Heritage Site. A new museum was established during the 1990s and excavations of rock art sites continued for several years by the department and the museum. However, through generous funding from the European Union's Marie Curie programme for Research Training Networks as well as from the Swedish Riksbankens Jubileumsfond it was possible to exchange young researchers between our departments for shorter and longer periods, just as three research seminars were instrumental in presenting and discussing the results of our research programmes. The first research seminar was held at the famous Nämforsen rock art site in Middle Sweden in 2003, the second in the new archaeological park for rock art in Campolameiro, Galicia, that was being created during the project and led to an extensive research programme. A final conference was held in 2006 in Sweden at the site of the famous Kivik burial with pictorial stones. The papers from this conference in 2006 summarised the results from our four years of collaboration that are presented here. Most of the Spanish and Swedish contributors spent some of their research time in respectively Galicia and western Sweden respectively, and took part in excavations and the recording of rock art. It will be obvious from several of the articles that new interpretations and datings of rock art motifs were the immediate results of this collaboration, just as the excavations revealed a great deal of new information about the rituals taking place in front of and around rock art sites. However, we also employed Indo-European texts and folklore on rituals and religion as

a new interpretative strategy. The results of these new theoretical and methodological strategies in rock art research demonstrate the power of collaborative and comparative research. In a way, the research scheme created between both institutions led us to a methodological dialogue that made innovations and interpretative developments not only possible but unavoidable. Research strategies and ideas developed in each area were transferred to the other, thus increasing the scientific feedback.

As project leaders we wish to thank all participants for their willingness to publish the papers from the conference, and we wish to thank Åsa Fredell for having carried out the time-consuming editorial work. We hope the papers transmit some of the inspiration and enthusiasm that the project created. Finally we wish to thank Riksbankens Jubileumsfond in Sweden for their financial support of the publishing.

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A Life Aquatic?

Looking at the relationships between settlements, rock art and sea levels in the Himmelstalund region of eastern Sweden

Per Nilsson

The existence of rock-art panels surrounding the Motala River to the west of the city of Norrköping has been well known among Scandinavian Bronze Age researchers since the late 19th century. Abundant and varied motifs can be found at locations such as Himmelstalund, Fiskeby and Ekenberg. One of Sweden's largest prehistoric settlements was discovered in the same area, at Pryssgården, during the early 1990s – the settlement having been densely inhabited in the Late Bronze- and Early Iron Age. Recent excavations south of the settlement show that areas previously regarded as marshland, or even submerged land, were also settled. In this article I present some of the results of these excavations, including one made in close connection to the most famous rock-art site, Himmelstalund. The major rock-art sites are often interpreted as possible meeting-places where both religious ceremonies and trading activities took place. It is suggested here that one of the main reasons why such gatherings occurred at this special place was that the river offered exceptionally good seasonal fishing opportunities.

Introduction

This article aims at a discussion of Bronze- and Early Iron Age settlements, shore displacement and livelihood in one of the best known rock-art regions of southern Scandinavia; the area surrounding the former outflow of the Motala River, situated to the west of Norrköping in the south-eastern part of Sweden. The region is well known for its number of rock-art sites, examples of which include Himmelstalund, Ekenberg and Fiskeby (Figure 1.1).

In this article I present and discuss results of excavations closely connected with some of the rock-art sites. New C14-datings indicate that there was more dry land during the Bronze- and Early Iron Age than has previously been estimated. Excavations made in recent years also show that settlements from this period can be found at lower levels than were earlier thought possible. This is interesting, because it provides useful data



Figure 1.1: Map showing the geographical location of Himmelstalund.

for addressing the question of what kind of landscape surrounded the rock-art sites and their eventual connection to water or marshlands. It now seems possible to find settlements, and perhaps even rock-art sites, at levels as low as 10–15 metres above the present sea level. Although it seems that there was more inhabitable land during this period than previously estimated, this ground must have been quite damp for parts of the year. In this article I aim to discuss some of the possible reasons why people chose to settle in these periodically hostile environments.

Rapids and research

During the Bronze Age, an isthmus to the north of the river separated a deep gulf of the Baltic Sea in the east from Lake Glan in the west (Figure 1.2). It was a place where inland routes met the Baltic Sea, and the region has been depicted as the main entrance to this part of Sweden (Larsson 1993, 137, Stålbom 1995, 57). About a kilometre east of the rapid-flowing currents at Fiskeby, the waters became calmer. The most famous rock-art site, Himmelstalund, is to be found here close by the river. This area has been pointed out as a possible anchorage for ships that were providing Scandinavia not only with bronze, but with symbols and a symbolism inspired by the material culture of

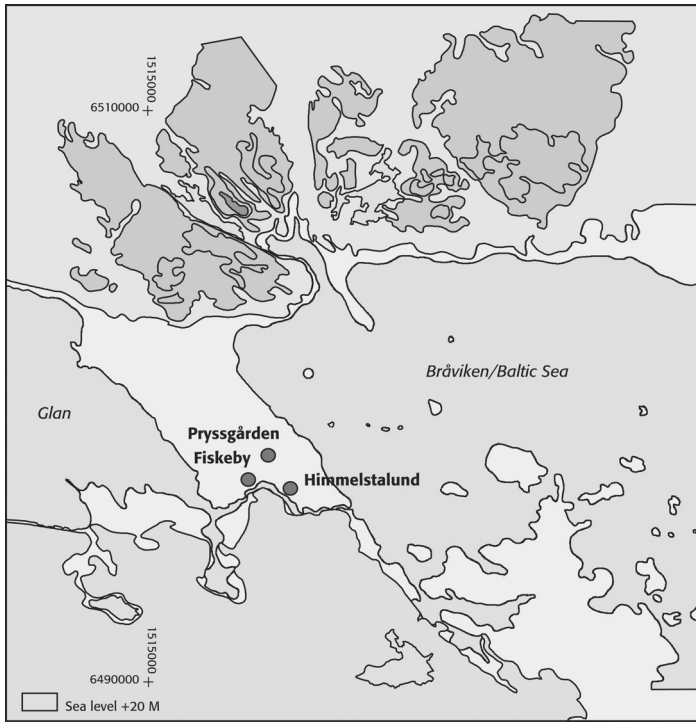


Figure 1.2: Reconstruction of the landscape with a sea-level of 20 metres above the present one. Based on a map from Borna-Ahlkvist 2002. Scale 1:100 000.

Central Europe and even the Mediterranean (Larsson 1993, 109 ff, Kristiansen and Larsson 2005).

Lately, however, questions have arisen as to whether the Motala River really was a suitable route, particularly as the falls and rapids at Fiskeby are seen rather as gateways out of the country – the falls being the passage you had to physically or symbolically go through on your way towards the unknown (Hauptman-Wahlgren 2002, 29). The idea that rock-art sites were some kind of trading places has also been challenged, from the point of view that excavations have failed to show any clear connection between rock-art sites and trade (Hauptman-Wahlgren 2002, 29). Issues concerning Bronze Age societies in this region have been of special interest in recent years, with dissertations focussing both on the rock-art site and the large settlements found in the area (Borna-Ahlkvist 2002, Hauptman-Wahlgren 2002 and Fredell 2003). At Pryssgården, less than a kilometre north of the river, one of the largest prehistoric settlements in Sweden was excavated in the 1990s (Figure 1.2). The settlement contained over 90 houses, most of which are datable to the Bronze Age and the Early Iron Age (Borna-Ahlkvist *et al.* 1998).

The Fiskeby settlement

A few years ago, The Swedish National Heritage Board completed major initial excavations in the area between the river to the south and the Pryssgårdens-settlement to the north (figures 1.2–3). While these excavations revealed a site that was structurally very similar to the large settlement previously found at Pryssgårdens, there was a difference in the kind of ground chosen for habitation. At Pryssgårdens the ground consisted of sandy, thoroughly drained soil, while the newly discovered settlement at Fiskeby was established on a clay soil that retains its moisture for long periods of time (Nilsson 2005a, Nilsson 2007a). Radiocarbon datings from the excavation site range from Late Bronze Age to Early Roman Iron Age, *i.e.* from about 600 BC to 300 AD. The settlement seems to have been established during the latter part of the Late Bronze Age and at its most intense during the Pre-Roman and Early Roman Iron Age.

At Fiskeby, just a few hundred metres southwest of the newly discovered settlement, a large grave-field with more than 500 burials was excavated in the 1950s (Figure 1.3) (Lundström 1965, 1970). This grave-field appears to have been in use from the Late Bronze Age to the Late Iron Age. Because of the close connection in both time and



Figure 1.3: The landscape surrounding Himmelstalund with the Lake Glan to the right. 1. The Himmelstalund-rock 2. Late Neolithic/Early Bronze Age settlement. 3. House and hearths. 4. Larger settlement. 5. The Fiskeby Settlement. 6. Rapids and grave-field at Fiskeby. Photo by Jan Norrman.

space between the settlement and the grave-field, we have chosen to call it the *Fiskeby Settlement* (in Swedish: Fiskebyboplatsen).

Initial excavations have shown that the complex of prehistoric settlements was even larger than had been estimated by, for example, Borna-Ahlkvist (2002, 14). The excavations also showed that extensive settlements were situated between the river to the south and the Pryssgården-settlement to the north – an area previously regarded as marshland, or at best waterlogged pasture during prehistoric times (Borna-Ahlkvist 2002, 15). In order to understand why settlements were located here, it is important to discuss how shore displacement changed the environment during the Bronze Age and Early Iron Age. With regard to the region as a whole, the sea level is supposed to have been about 20 metres above the present sea level during the Early Bronze Age and about 15 metres during the Late Bronze Age (Borna-Ahlkvist *et al.* 1998, Hauptman-Wahlgren 2002, 27). These levels have been used in landscape reconstructions by researchers working in this area for some years. The results of C-14-datings from several excavations now show that these estimated levels have to be questioned. Before turning to the subject of sea levels and the question of why people chose to settle here, however, I would like to discuss some of the region's settlements that are similarly situated.

Settlements by the river

At Himmelstalund, about 100 metres north of the rock-art site, remains of a prehistoric settlement were found at an altitude of about 22–26 m.a.s.l. (Figure 1.3) (Persson 1998). A minor excavation revealed post-holes, hearths, cultural layers, etc. Two features were dated to the Late Neolithic/Early Bronze Age at a level of + 22.80 m.a.s.l. (3370±60 BP, 1970–1510 cal BC) and + 23.42 m.a.s.l. (3520±60 BP, 1770–1510 cal BC). The foot of the rock is at a level of about 26 metres.

It has previously been estimated that during the Bronze Age the Himmelstalund-rock was situated on a small island (Kaliff 1997, 40), or at least located in a kind of marshland that was almost inaccessible for parts of the year (Hauptman-Wahlgren 2002, 47). Weapon-motifs like swords, daggers and some of the axes have been interpreted as being the oldest rock-carving motifs of this region. Some of them probably date back as far as the Early Bronze Age Period II, around 1600 BC (Hildebrand 1869, Nordén 1925, Larsson 1986a, 143, Hauptman-Wahlgren 2002, 178). If this dating is correct, then the site to the north of the rock may be contemporary with, or even older than the oldest motifs on the Himmelstalund-rock. The early dating of the settlement north of the rock thus raises doubts about the previous conception of the environment surrounding the rock-art site. The fact that people were using the site at about the same time or even before the first motifs were cut into stone is also of considerable interest.

A few years ago, another excavation was made close to the rock-art site at Himmelstalund, this time between the rock and the nearby Motala River (Ericsson

and Nilsson 2007, Nilsson 2008b). The excavation was made because a new road for cyclists and pedestrians was to be built. At two places along the planned road we found traces of prehistoric settlements (Figure 1.3). About ten metres beneath the rock, a small house and some hearths were found. The house was three-aisled, about 7.5×3 metres in diameter and C14-dated to 2000 ± 30 BP (45 cal BC–55 cal AD). Some 100 metres to the west of the rock with the carvings, excavations revealed a minor part of what appears to have been a larger settlement. In an area of not more than 15×10 metres there were three large wells, hearths, an earth oven and some cooking pits. The features contained plenty of pot-sherds, animal bones, pieces of slag (not from metalworking) and several rubbing stones, and on top of one of the filled-in wells was a grinding stone. Both the features and the finds speak in favour of a stable settlement. The C14-datings from the larger settlement range from 2140–1820 BP (350 cal BC–235 cal AD). Five of the seven samples were dated to 2010–1950 BP. It seems clear that a more stable settlement was established in close proximity to the rock-art site in the late Pre-Roman Iron Age. An obvious question is naturally whether the people living in this settlement were still creating (or perhaps re-using) rock-art? Were the rock-art site long-forgotten ones, or were they still in use in some context during this period? Later research has shown that the Bronze Age tradition of making rock-art in Scandinavia was probably still in existence in some areas also during the Pre-Roman Iron Age (500–0 BC) (Kaul 1998, 104f, Hauptman-Wahlgren 2002, 179). Two hearths dated to the Early Iron Age found in close connection to one of the panels at Himmelstalund speak in favour of such an interpretation (Nilsson 2008a–b). I aim to explore these topics further in a forthcoming article (Nilsson *in press*).

Following the river further to the east, we move to what is today the central part of the city of Norrköping (Figure 1.4). As has previously been mentioned, the sea level in this region is supposed to have been about 20 metres above the present level during the Early Bronze Age and about 15 metres during the Late Bronze Age. A sea level of 20 metres above that of today would have meant that the Lake Glan was separated from the Baltic Sea and the rapidly flowing currents would have formed at Fiskeby. As the sea level fell to 15 m.a.s.l., falls and torrents would have formed where central Norrköping is now situated. Not far from the torrents, along the Kungsgatan road on the south bank of the river, prehistoric settlements have been located, preserved beneath the cultural layers of the town (Figure 1.4). Here, three cooking pits were excavated and C-14 dated to the Bronze Age; two being dated to the Early Bronze Age, 3130 ± 70 BP (1500–1310 BC) and 3070 ± 65 BP (1430–1210 BC) while one was dated to the Late Bronze Age, 2765 ± 70 BP (1000–830 BC) (Lindgren-Hertz 1999). The cooking pits were found close to the river at an altitude of only 17 metres above the present sea level. Not far from the pits, a palstave with spiral ornaments was found at the bottom of the river. It has been dated to the Early Bronze Age, Period II (1500–1300 BC) and may thus be contemporary with two of the cooking pits (Oldeberg 1974, 292f).

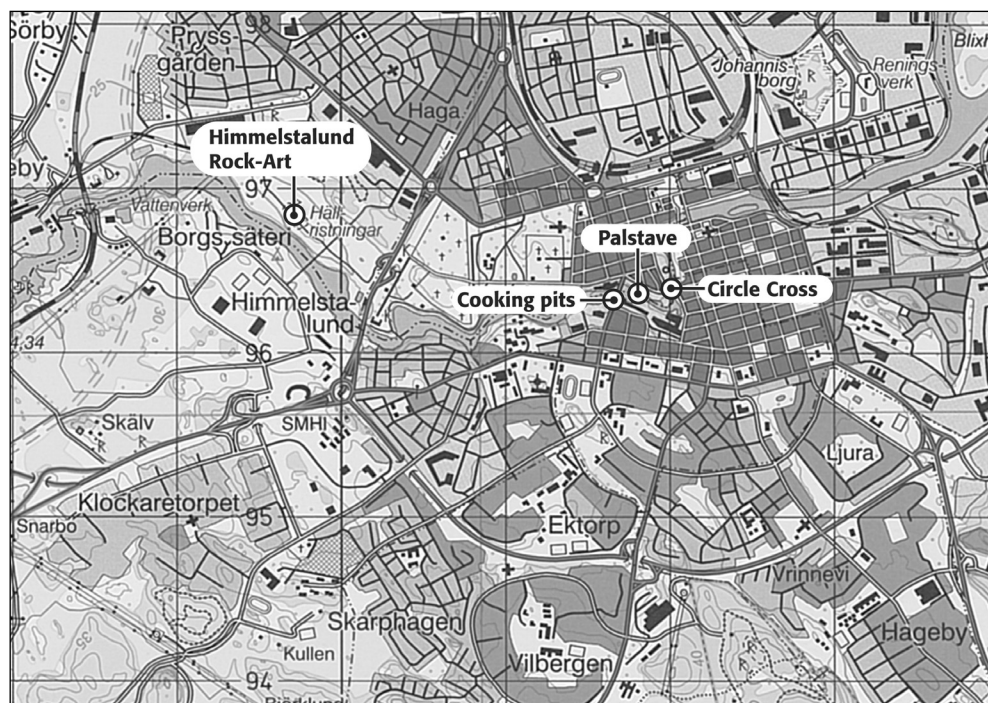


Figure 1.4: Map showing the central part of Norrköping. Scale 1:50 000.

Another interesting site is Wilhelmsberg, located less than two kilometers north of the Pryssgården settlement. Here a cooking-pit has been C14-dated to 800–400 cal BC at an altitude of only 7.86 m.a.s.l. (Petterson and Ulfhielm 2000).

More detailed studies of the shore displacement in this region are necessary. But considering these early datings and the location of the above mentioned features low altitude above the sea level, I think it is reasonable to suggest that during the Early Bronze Age, sea level was about 15 metres above the present one and about 10 metres during the Late Bronze Age. In the transitional period between the Late Bronze/Early Iron Age, it is possible that the sea level may even have been below 10 metres. The difference in sea-level of just a few metres may seem insignificant, but since the Norrköping district is largely composed of flat land, changes in sea level would have had a considerable effect on the landscape.

The circle-cross at Knäppingsborg

The cooking pits in central Norrköping were found close to the site of the region's earliest documented rock-art figure. A treatise from the 1740s describes a now lost circle-cross figure located on the so-called Knäppingsborg rock, which was situated beside the river in the centre of the town (Figure 1.4) (Lithzenius 1742, 46). In 1925,

the well-known Swedish Bronze Age researcher, Arthur Nordén, used this circle-cross as a landmark to reconstruct the sea-level in this area during the Bronze Age (Nordén 1925). The circle-cross would have been situated a mere seven metres above sea level, which is why most later researchers have assumed that it could not have been made during the Bronze Age. In view of the new estimations of sea levels in this region, this assumption must also be challenged. Another possibility is that the circle-cross was only visible during periods of extremely low water, *e.g.* during certain parts of the year. If this is true, it would parallel the carvings at Nämforsen and Norrfors in northern Sweden. At both these sites, a number of rock-carvings are below the surface at high water, and some of them are even eroded by the prevailing streams and currents (Goldhahn 2002, 63). This can be compared with a passage from the 1740s document which states that the circle-cross at Knäppingsborg: “[...] has by the passage of time become almost eradicated.” Could it be that such eradication was due to the carving being exposed to the river’s currents? The fluctuating water levels of the river indicate the likelihood that the circle-cross was created at a time of low water and was hidden from sight as the water rose. Perhaps the most likely interpretation is that the circle-cross was made during the Pre-Roman Iron Age, but as mentioned earlier, the tradition of making rock-art was still in existence during this period in different parts of Scandinavia. The circle-cross could therefore have been made at the very end of the figurative rock-art tradition.

A life aquatic?

It has recently been suggested that all the major rock-art sites in the Himmelstalund-region were originally situated in wet or marshy land; in a kind of liminal zone between land and water (Hauptman-Wahlgren 2002, 47). The dense vegetation of the wetlands surrounding the rock-art sites would have created limited access during parts of the year. If this is correct, Bronze- and Early Iron Age settlements found close to the rock-art sites must have been situated in some kind of marshland. The Late Neolithic/Early Bronze Age site found to the north of the Himmelstalund-rock shows that this interpretation ought to be challenged, or at least reviewed for some of these major rock-art sites.

What did the environment surrounding these settlements and rock-art sites really look like, then? These are some of the possibilities:

1. The settlements and rock-art sites were set in a landscape dominated by densely vegetated wetlands, as suggested above. Since the ground was waterlogged, or even submerged for parts of the year, houses or huts would have had to be supported above the ground, *for example*, by means of poles or terraces.
2. The settlements were established and used during periods of more torrid climate, or at times when water-levels were low. The settlements may then have been abandoned – either temporarily or permanently – as the water level rose.
3. No settlements, and only a few of the major rock-art sites, were located in waterlogged zones between land and water.

To my mind, the most reasonable option combines different parts of all the three alternatives. Some of the rock-art sites were without doubt located in marshy wetlands during the Bronze Age. But several of the major sites, such as Himmelstalund, Ekenberg and Fiskeby, were all located in connection to more torrid ground that was possible to use for settlements. There is no archaeological evidence to suggest that houses were built on marshland in this region during the Bronze Age, which means that settlements found near the rock-art sites must have been established on dry land. What the landscape looked like at the time or times the rock-art was created is a more delicate issue. I think that it is important to realize that the main character of this sea-, lake- and river-bound landscape (or seascape) is that it is ever-changing. In order to understand why certain places were considered suitable for making rock-art, it is important to analyse the environment of the rock-art sites from a long-term perspective. Shore displacement, Baltic Sea fluctuations and changes in the nearby lakes and watercourses all affected the shape of the landscape. Even the annual spring rise in the water levels must have brought about radical changes to the environment.

Why, then, did people settle temporarily or permanently in these areas during the Bronze- and Early Iron Age? Although they may not have been proper wetlands, the ground must at times have been quite damp around some of the major rock-art sites.

Again there are several possibilities, or a combination of possibilities, such as:

- The closeness to ecologically rich zones, affording plenty of fish, water fowl, etc. (Kjellén and Hyenstrand 1977, 27f).
- They afforded nearby pasturage and meadows where forage could be gathered, such as, for example, alluvial meadows fertilised by natural flooding (Larsson 1986b, 44).
- More attractive areas of land were already occupied or cultivated (in this case; the Pryssgården-settlement).
- Conceptions as to the symbolic or religious significance of the place. The rock-art sites themselves prove that these places had a special significance.
- The rock-art sites may have been associated with what has been called a third social space, which had to do with seasonal maritime activity and a marine identity. This has recently been proposed for some of the rock-art sites on the West Coast of Sweden (Ling 2005).
- The strategic position in terms of close proximity to both sea- and land-routes made it an important area for those who wanted to control the important travel/trade routes (see below).

Fishing – resource or a reason for gatherings?

The major rock-art sites are often interpreted as being regional meeting places or aggregation sites, where economic as well as religious activities were conducted (Larsson 1993, 137, Kaliff 1997, 40, Kristiansen and Larsson 2005, 335). But what could originally have attracted people from all over the region to this specific place? If people

from far and near actually did gather by the rock-art sites of Himmelstalund on certain occasions, one thing in particular could have contributed to the original importance of the place; and that is fishing. Early Medieval sources clearly show how important fishery was to the area. Indeed, the very first document mentioning the town of Norrköping was made in the context of salmon-fishing (Ljung 1965, 58 ff.). Very few places in this part of Sweden have provided such good prospects for catching migratory fish during pre-historic times as the Motala River. One of the topical questions about Bronze Age societies in this region has been whether they were mainly reliant on the breeding and herding of cattle (*e.g.* Hyenstrand 1977, Larsson 1986a-b) or the cultivation of land (*e.g.* Bornha-Ahlkvist 2002, 113). In my opinion, the importance of fishing has been underestimated. The role of fishing during the Bronze Age has recently been discussed by Anders Berntsson (2005), who has been studying the human relationships to the sea in Scania and Denmark during the Bronze Age. His conclusion is that marine resources were not the dominant nutrition source during this period. But judging from C13-analyses, it is also clear that marine resources were used by most people in this region, and also that some individuals must have had a significant marine-based diet (Berntsson 2005, 120).

If fishing was important for the Bronze Age societies of the Himmelstalund region, an obvious question is whether any of the rock-art motifs show evidence of fishes or fishing? To my knowledge, fishes are not depicted in this area at all. The ships show



Figure 1.5: Possible net-fishing scene from Himmelstalund.

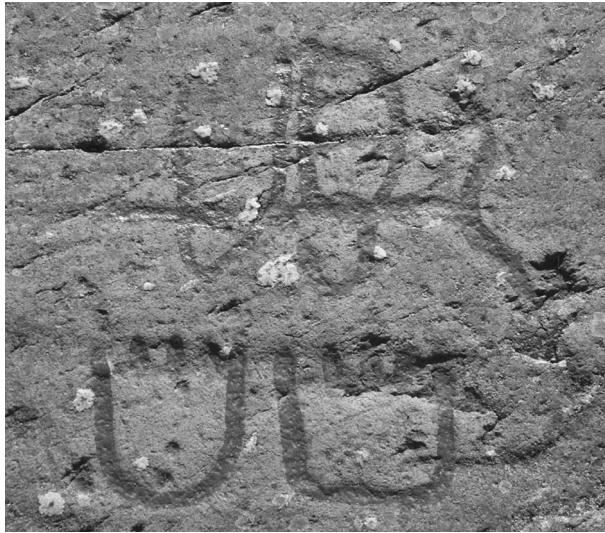


Figure 1.6: Bear tracks and human foot-soles from Himmelstalund.

a clear connection to water, of course, and perhaps one motif from Himmelstalund could be interpreted a human figure pulling a net from the river (Figure 1.5). Another interpretation has recently been given by Kristiansen and Larsson (2005, 169–70), who suggest that this motif could be interpreted as a symbol influenced by the Linear A sign, meaning ‘cloth’.

The absence of fish or fishing motifs can hardly be regarded as proof that this resource was not important to Bronze Age people. In the Himmelstalund-region, for example, there are hunting and herding scenes but no ploughing scenes, although excavations show that the settlement of Pryssgården was based mainly on farming, at least during the Late Bronze Age (Borna-Ahlkvist 2002, 195). Furthermore, there are no motifs that we can interpret as houses found in this area, although we have archaeological evidence for their existence in the near vicinity (Borna-Ahlkvist *et al.* 1998). But maybe we should be looking for other, more symbolic ways of depicting fishing? On top of the panel at Himmelstalund there is a row of bear tracks, leading from east to west (Figure 1.6). At one place the bear tracks stop just behind two human foot soles. The motif can be interpreted as a shamanistic scene, showing the transformation from man to bear or bear to man. While this might very well be true, I would prefer to be rather more pragmatic and interpret these tracks as the actual memory or myth of a bear on its way from the vast forests some kilometres north of Himmelstalund and Pryssgården to the exceptionally good fishing waters in the rapids of Fiskeby.

In the present context it is also of interest to reconsider the great number of houses found at Pryssgården. Were they all fully inhabited all the year round? If people were gathering close to the rock-art sites for a period of time, they would have needed somewhere to live. Of course they could have brought their own tents or huts,

which would have left little or no trace at all. But I have often been struck by the large number of houses from the Bronze Age/Early Iron Age found at Pryssgården. A perhaps farfetched, but nevertheless interesting idea is that the settlement may in part have functioned in a similar way to the so-called church-towns of northern Sweden in historic times (in Swedish *kyrkby* or *kyrkstad*). Parishioners travelled from all over the parish to the church to gather for religious services and festivals, staying with people from their own farms or villages in cottages located close to the church. In addition to religious ceremonies, trade, feasting and marriage alliances also took place, which meant that the church-towns were fully inhabited only for short periods of time (Anker and Snitt 1997).

I think it is worth considering that the Pryssgården-settlement could, at times, have housed guests/relatives from other parts of the region. One such occasion may have been that part of the year when salmon migrated up river in great numbers. What speaks against such an interpretation is that no significant quantity of fish bones was found during the excavations (Borna-Ahlkvist *et al.* 1998, 160). On the other hand, the sandy soil at Pryssgården would not have preserved fish bones very well, and it is also important to mention that 75 per cent of the fish-bones were found during flotation (1998, 160). When considering whether guests from further away also found their way to Pryssgården, it is necessary to conduct a thorough analysis of the material culture from the settlement before making any assumptions. The find of a unique clay-figurine and two Lausitz-influenced vessels (Borna-Ahlkvist *et al.* 1998, 128f.) could favour such an interpretation, particularly as another vessel of the same type was also found not far from their location and at another excavation (Nilsson 2005b). These finds at least indicate that this part of the settlement might well have had a special significance. The excavators interpreted it as an area where ritual activities took place (Stålbom 1998, 3, Borna-Ahlkvist *et al.* 1998, 29). Perhaps it could also be interpreted as the area where far-flung guests or relatives stayed for short periods of time, and that the above-mentioned finds were the material remains of such visits.

Conclusion

All in all, it is my view that these new results allow us to conclude that:

- The complex of Bronze- and Early Iron Age settlements at Pryssgården and Fiskeby was even more extensive than has previously been estimated. It is also possible to find new settlements in areas previously assumed to have been uninhabited during this period.
- Previous estimations of shore displacement in the region during the Bronze- and Iron Age need to be reconsidered, and the character of the landscape discussed anew.
- The role that fishery played in the Bronze Age society needs to be discussed and considered further, not only as a means of livelihood but also as a contributory reason for people to gather in large numbers in those places where fish was a seasonally abundant resource.

I believe that these new results should also affect how and where excavations near

rock-art sites are conducted. Excavations made in close proximity to rock-art sites have rarely revealed any houses, huts or other traces of settlements, but the excavations have mainly been conducted just beneath the rocks with a view to finding traces of possible ritual activity that could be connected to the act of making rock art (Nordström 1995, Bengtsson 2002). To find the settlements I would therefore propose that we shift our gaze to the surrounding landscape at only a small distance from the rock-art sites. Perhaps that is where we should be looking for the rock-carvers' settlements?

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Rock Art and Archaeological Excavations in Campo Lameiro, Galicia

A new chronological proposal for the Atlantic rock art

Manuel Santos Estévez and Yolanda Seoane Veiga

This paper presents the results of an archaeological excavation in front of a panel with designs in the Galician Atlantic rock-art style: cup and ring marks, concentric circles, stags, hunting scenes, footprints and humans. During this excavation, a layer was found with archaeological evidence possibly related to the rock carvings. Radiocarbon dating from this layer gave a late chronology – from the 8th–4th centuries BC. These results agree with other data such as the chronology of the riding scenes, labyrinths and small shovels carved in Galician rock art. We suggest that Atlantic rock art has a lengthy chronology, from the Late Neolithic/Early Bronze Age until the First Iron Age.

Introduction

Although the chronology of Galician rock art has been one of the most widely debated issues in Galician historiography over the last century, in the last twenty years the subject has been studied in much greater detail. As an introduction, we would like to point out that we are going to deal exclusively with what is known as Atlantic rock art, as many publications have the tendency to lump together carvings of different styles as if they belonged to one single group; this has only increased the sense of confusion that exists about this issue. This has led to carvings with cup marks in hillforts and megaliths being used as chronological data, yet when considering the simplicity of these carvings, it is not possible to attribute them to any specific style. As rock art as a generic concept is a phenomenon which, in Galicia, extends from the Neolithic until at least the Middle Ages, for this reason, we need to restrict the study object, so in this article we will deal exclusively with the Galician Atlantic rock-art style.

In using the term ‘Atlantic rock art’ we are aware of its implications, as this groups together petroglyphs ranging from northern Portugal all the way up to Scotland, including England and Ireland (Santos and Criado 2000). We believe that a group of carvings in Galicia should be included in this group. Researchers such as Mac White

(1951) and more recently Bradley (1997) have demonstrated, at least in our opinion, that formal similarities exist amongst carvings from Europe's western rim. We should emphasize that at least the carvings from Britain and the north-western Iberian Peninsula could coincide in their chronology, because there exist clear similarities in their emplacement, generally along the coast, and on occasions with very similar compositions (Bradley 1997). This means that in rock art we would have another witness, along with pottery and metalwork, of what are known in general terms as 'Atlantic relations', with the likelihood of long-distance maritime trading routes.

This article presents preliminary findings from an excavation carried out in the area of Campo Lameiro in Galicia, located in the north-western corner of the Iberian Peninsula, and attempts to analyze the implications these results have with regard to the chronology of Atlantic rock art. Campo Lameiro is in a zone marking the transition between the south-western coast of Galicia and its interior, with one of the highest concentrations of Atlantic-style rock art, including several hundred rock carvings, outstanding not only for their density, but also for their iconographic content. The 'repertoire' of the Atlantic style includes concentric circles, labyrinths, footprints, deer, horses, serpents, and weapons such as daggers and swords. It is also the Galician region with the highest density of narrative compositions, such as deer hunts and riding scenes.

The excavation in question was carried out as part of a project entitled "Actions for the documentation of the cultural landscape in the Campo Lameiro Rock Art Park" carried out by the Landscape Archaeology laboratory of the Padre Sarmiento Institute of Galician Studies (a joint centre run by the Spanish National Research Council, CSIC and the Galician government, the Xunta). Also, all archaeological work was carried out within the "Archaeological Context of Galician Rock Art (ContextArt)" project, defrayed by the Spanish Ministry of Science and Technology. Code: HUM 2005-6119/Hist. The aim of this project is to obtain the information necessary to document the rock art located in Campo Lameiro and provide contents for the museum to be built on the site.

Excavations in Os Carballos

Obviously, apart from prospecting and documenting the carvings, one of the main archaeological jobs on the site was to carry out excavation work around the carvings. A total of seven digs were carried out, five of which failed to offer any results for different reasons, mainly as a result of erosion having destroyed the archaeological record. Also, having observed the results obtained in the other two digs, we know that the record is very fragile and that even moderate erosion is capable of eliminating any remains associated with the carvings.

We will go on to offer a brief description of the findings from our excavation around the carving of Os Carballos (Figure 2.1), as here the results were particularly interesting, mainly in chronological terms.



Figure 2.1: View from the south of the excavation at Os Carballos and the location of the dated samples.

The excavation was carried out in two campaigns in two consecutive years, 2003 and 2004. This is a clear example of indirect dating of a rock carving; in our case we have dated the context of a petroglyph, dating a deposit associated with a carved panel. Generally, when we know the chronology of a deposit covering a panel, what we really know is its minimum age (Chippindale and Nash 2004), although, as we will see, in the following case we have greater precision, as there is sufficient reason to interpret one of the deposits as being the original ground level of the time when the petroglyph was in use.

2003 Campaign

The petroglyph was completely covered, until an unexpected earth movement uncovered part of the carved surface, and in 1981 work started that would uncover 90 per cent of the panel we know today (Peña Santos 1982, 1985). In 2003, campaign work started on re-excavating the surface uncovered in 1981. Excavation work continued until fully exposing that part of the rock. A test pit was then dug towards the east, in front of the panel measuring six square metres, and a mechanical trench, seven metres long, was dug running east to west from the eastern end of the excavation around the petroglyph. The trench was dug with the aim of obtaining a vertical reading of the surrounding stratigraphy and the test pit was extended with a 3×3 m section running south. The aim of the mechanical test pits was to obtain a series of profiles that would allow us to analyse the stratigraphy and to obtain test columns.

The results of the 2003 campaign allowed us to make the following observations:

- There is a very uniform stratigraphy in all profiles, leading to the assumption that all processes of the soil covering the petroglyph were similar.
- The petroglyph was covered by no intentional processes, although anthropic actions may well have caused them (increased erosion, possibly as a result of removing the plant cover). The studies about the erosive and soil formation processes were carried out by M. Costa Casais and X. Pontevedra Pombal, members of the paleoenvironmental studies team, directed by Antonio Cortizas of the Heritage, Paleoenvironment and Landscape Laboratory (IIT-USC).
- The covering process of the petroglyph started at its base, at its south-eastern edge, and that these deposits gradually grew towards the west and north, meaning that the last carvings to be covered were at the north-western corner.
- 90 per cent of the carvings were already uncovered in 1981, and that from the bottom of the large deer carving and downwards, there do not appear to be any more carvings, judging by what has been observed in the trench opened in this sector.
- The trench dug towards the east revealed a deposit immediately under the large deer with a high concentration of quartz chips, evidence that was interpreted as possible remnants from the process of making the carving. This deposit coincided with the bottom edge of the panel, and with the ground line of the large deer.
- Judging by the datings made, it would appear that at least in general terms, the deposition of material in this zone was a very slow process that took place over a long period.

Datings

The table below (Figure 2.2) shows the C-14 datings obtained in the site of Os Carballos. These datings were analysed at the laboratory of the University of Uppsala. The datings were obtained by the extraction of organic material from the deposits.

Considering the results from the datings, it would appear to be confirmed that we are faced with a very lengthy process, from the fifth millennium BC until the transition between the first and second millennium AD, in which the rock with the carving of Os Carballos was gradually covered. The surface of the carving has a large number of

Origin	Results	Data calibrated to 2 sigma	Interpretation
MU030807A01a. Deposit from the northern edge of the excavation. This deposit was situated directly over the carved rock at the height of the large deer's head.	Ua-22551 975±40 BP	990–1170 AD (95.4%)	A period when half of the carving was covered, including most of the large deer. No archaeological material.
PRD-II-18. Burnt level which extended over all of the area excavated. Taken from a sample column five metres from the carving.	Ua-22555 1835±40 BP	300–320 AD (95.4%)	Indication of a fire when at least one fifth of the carving was buried. This may be the same period as the fire damages. No archaeological material
PRD-II-25.	Ua-22556 3055±40 BP	1140–1130 BC (95.4%)	Corresponding to a level that was burnt. A deposit without archaeological material, 15 cm below the lower limit of the carvings.
PRD-II-25C. Deposit with numerous small charcoal pieces mixed with earth. Taken from the same column as PRD-II-18.	Ua-22559 3125±45 BP	1280–1260 BC (95.4%)	
MU030904K04. Earth deposit situated directly over a number of natural slabs located a few centimetres over the substrate.	Ua-22553 3360±40 BP	1740–1520 BC (95.4%)	Period when the last stones from the bottom of the excavation were covered. No archaeological material.
MU030904K02 Deposit over which the slabs from the bottom of the excavation are situated.	Ua-22552 3640±40 BP	2140–1880 BC (95.4%)	Intermediate period in which the substrate was covered. No archaeological material.
PRD-II-39. Deposit covering the substrate at the south eastern corner.	Ua-22558 5350±50 BP	4260–4040 BC (95.4%)	Start of the erosive processes possibly caused by humans (elimination of the plant layer). No archaeological material.

Figure 2.2: C-14 datings obtained in 2003 campaign in Os Carballos site.

fire damages particularly in its southern half. All of these are above the burnt level, meaning it is most likely that the damage was caused by a fire when the soil level already covered the bottom of the carving.

Observing the panel of Os Carballos, we see that much of the surface was profusely decorated, with hardly any 'blank' spaces except in the very top part. There are even a large number of carvings superimposing others, something rarely seen in Atlantic rock art. This profusion of carvings would seem to indicate that the makers of the panel used the entire surface that was available at the time, as there is not only a profuse agglomeration of carvings on one sector of the rock, but also, from the height of the large deer's feet, the carvings disappear abruptly. This sudden interruption of the carvings under the deer seems to indicate the lower limit of the space available to make carvings at a given moment in time, probably the ground level when the carvings started to be made. This hypothesis appears to be corroborated by the presence of quartz chips at the foot of the large deer, apparent proof of the carving process, although it was necessary to extend the excavation at the foot of the panel to find further archaeological evidence to document the moment of use related to the carving. This was the aim of the campaign carried out in 2004.

The 2004 Campaign

Three areas were dug around the carving, to the north, the south, and to the east. The east dig was an extension of the excavation made in 2003. The results of the northern dig were all negative. From the test pit running south, the only discovery worth noting was what may possibly be a vague, zoomorphic carving. The only results of real importance were found in the eastern dig, just in front of the panel.

The eastern dig measured six metres from north to south, and three and a half metres from east to west. It was located in front of the carved panel, and had three levels. The first corresponded to the route of an ancient roadway used until recent times, identified by the presence of longitudinal, highly compact stratus one and a half metres wide. Under this level, a burnt surface was found occupying the whole area, corresponding to the same burnt level where sample PRD-II-18 was taken. This means that the fire occurred at the end of the Roman period, when part of the carving was already covered. Under this level, coinciding with the lower limit of dispersion for the carvings (as no more were found below this deposit), the only level with archaeological evidence was found. This was identified as a result of it being more compact and sandy than the deposits above it and below. Here a possible posthole was found, a fragment of alochthonous clay, a percussive tool made from a rolling stone, and various quartz flakes. Alochthonous clay is a mineral that is not found in the area around the park: the closest area was in 'As Canles' in San Isidro de Montes (2.5 km away). Quartz flakes were also found in the southern half together with a rock crystal and a small open channel in the ground, and the remains of a hearth, shown by an accumulation of charcoal. Subsequent analyses have possibly revealed that this hearth was the result

of cutting a hole in the ground, throwing in shrub branches, and then setting them on fire. The results of the datings for this bonfire were 860±35 cal. BP, around the eleventh century AD. The anthracological analyses made by María Martín Seijo from the University of Santiago de Compostela indicated a clear predominance of shrub species, with the possibility that the bonfire had been made as part of work to clear away undergrowth on the hillside. From below this level down to the rocky substrate, there are numerous shallow deposits without any archaeological material.

The interesting thing about the findings made in the only level of occupation around the panel was that it coincided perfectly with the lower limit of distribution for the carvings, and was situated in the same deposit in which the concentration of quartz fragments was found. Furthermore, no archaeological material was found either above or below this level. Everything would appear to indicate that this deposit, some 15 cm deep, represented the ground level formed when the carving started to be made, until the moment when the first designs began to be covered. Samples were therefore taken from this deposit in order to obtain datings.

Datings

The most surprising thing about the results from the excavation was that the archaeologically 'fertile' zone was situated above the deposit where samples PRD-II-25 and PRD-II-25C, dated between 1140–1260 cal BC, were found, meaning that a carving supposedly belonging to the Bronze Age could have been made and in use around the first millennium BC, an extremely late date.

The samples taken from the archaeologically fertile zone were sent to the laboratory in Uppsala and the Rocasolano Institute of the Spanish National Research Council (CSIC). The results are shown in the table below (Figure 2.3).

Interpretation of the results

As an initial interpretation, it seems that there is one single moment of use for the area immediately around the carvings that may be directly related to their presence. This moment of use is represented in the archaeological record by a deposit of chronological depth ranging from the 8th to the 4th centuries BC (Figure 2.4). The stratigraphy is presented in a contiguous manner, where the deposits with archaeological evidences are situated above others without any interruption in the area in front of the panel, this means that all layers have archaeological materials. No layers empty of archaeological materials exist between them. The deposits coincide with the lower limit of the distribution of the carvings. It should be remembered that the petroglyph of Os Carballos is full of carvings, where the carvers used the entire uncovered stone surface at a time that would have coincided with the only anthropological level of the excavation; below this level the carvings disappear in the same way as the remains of cultural material.

The results of the excavation from the area immediately around the petroglyph of Os Carballos would therefore seem to indicate that it must have been made and used

Origin	Results	Dating calibrated to 2 sigma	Interpretation
MU040727A05 soil covering the open channel in the deposit that served as the lower limit of the carvings.	CSIC-2005 2350±29 BP	512–381 cal BC (95.4%)	Moment when the channel was abandoned.
MU040831A01 was taken from the same layer and just a few centimetres from where a series of stone chips were found, a striking tool and a fragment of clay. It also corresponds to the deposit that marked the lower limit of the carvings.	Ua-22558 23400±40 BP	539–357 cal BC (95.4%)	Moment when the materials were deposited in the soil, and therefore from a moment when the petroglyph was in use.
MU030905K05 taken in the layer situated immediately below the large deer.	CSIC-1959 2531±42 BP	799–521 cal BC (95.4%)	Soil level when the petroglyph was in use.
MU040806A07 taken in the same layer very close to the posthole.	CSIC-1985 2470±38 BP	637–480 cal BC	Date when the posthole was opened

Figure 2.3: C-14 datings obtained in 2004 campaign in Os Carballos site.

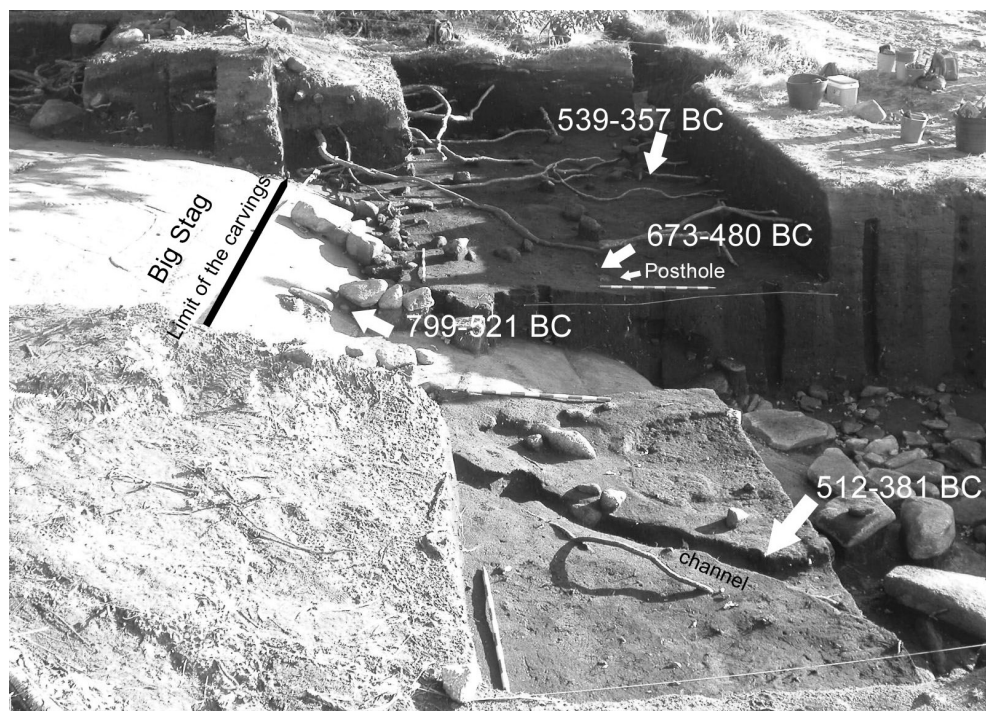


Figure 2.4: View from the south of the excavation at Os Carballos and the location of the dated samples.

towards the end of the Late Bronze Age, and throughout the First Iron Age.

Further information on the chronology of the Atlantic Style in Galicia

The datings obtained in the excavation made it necessary to review other information about the chronology of the Atlantic style in Galicia, which as we will see, are perfectly compatible with each other. We find two types of information in Galicia: one based on iconography, and the other on stratigraphy.

Relationships in stratigraphy

Several cases exist of the use of carvings in the Atlantic Style in a number of hillfort constructions from the Iron Age, although in this case the problem lies in the lack of chronological precision; in some cases the hillfort has not been excavated, and in others, the work was carried out in the past and did not date the stratigraphy associated with the petroglyph with the necessary precision. As a clear *terminus ante quem*, we have several examples in the Iron Age hillfort of Santa Tegra, in the south-west of Galicia, with constructions superimposing these types of carvings. However, due to the imprecision of the chronology of these constructions, we are only able to guarantee that the concentric circles and spirals found are previous to the final stage of occupation of the hillfort, around the second and third centuries AD. In the case of Alto do Castro (near Campo Lameiro), we did have a reliable dating for the stratus in which a rock was found with a cup mark surrounded by a simple circle; this level of occupation corresponded to the second to first centuries BC (Cobas Fernández and Parceró Oubiña in press). This series of findings indicate that at least in the final stage of the hillforts' settlement, during the time of the Roman occupation and very possibly during the second Iron Age (fourth to first centuries BC), the concentric circles – the most characteristic designs of the Atlantic Style – were in some cases destroyed and apparently ignored by the inhabitants of the hillforts.

However, we have a less precise frontier for the *terminus post quem*. In the north-western Iberian Peninsula we only have one case, that is the tumulus of Buriz (in Lugo), found during archaeological excavations (García 1975). The context of this finding is still problematic, but judging by the photos published, the petroglyph appears to have been placed intentionally by the door leading to the corridor of the megalith. View photo in Santos (2008, 148, fig. 11.5) Whatever the case, since we lack any report from this excavation and have not got sufficient information, any conclusion would be highly problematic.

Chronological analysis of the designs

Some carvings exist with designs allowing them to be identified as elements repeated in or on other material culture, particularly metallic, which are datable. In the first group we have weapons and what are known as 'shovels'. Most archaeologists agree that the

majority of the carvings of weapons found belong to the Early Bronze Age, generally consisting of halberds, daggers and short swords with triangular blades. Yet perhaps these designs are not the most suitable when gathering chronological information on the Atlantic style, as curiously they are only associated with motifs from the Atlantic Style on very rare occasions; from 34 known rocks with carvings of weapons, they only appear on ten occasions on the same panels as circular combinations or animal figures, and normally no rocks with typical motifs of the Atlantic style appear immediately in the vicinity around petroglyphs with weapons. Furthermore, the few weapons that do appear associated with circular combinations, like the three rocks found in Matabois (Campo Lameiro) and Pedra das Ferraduras (Cotobade), are of different types, and above all have types of handles with nails in the base that were not developed until well into the Mid Bronze Age. There is a definitive tendency for carvings with weapons from the Early Bronze Age to be disassociated from the typical motifs of the Atlantic style, although seven exceptions do exist. There is also a clear tendency for carvings of swords and daggers, from at least the last half of the Bronze Age, to share panels with circular combinations.

Elsewhere we have possible representations of shovels, although this identification is not without controversy, as no similar models have been found in the Iberian Peninsula to those known in the Vilanova culture (Figure 5.1). This type of figure is only documented in four stations in the north-western Iberian Peninsula: in Laxe da Chan (Cangas), Campo de Matabois (Campo Lameiro), Portela da Laxe (Cotobade) and Outerio Machado (Chaves). The parallels between these figures and others found in such great abundance in Valcamonica have already been explored by other authors (Peña and Vázquez 1979). There are certainly strong formal similarities between the designs seen in Galicia and Italy, and if they do represent the same type of object this would help us to date carvings of this type with a degree of precision. Datings have placed the metallic shovels from Italy around the first half of the 9th century BC (Farina 1998), either at the end of the Bronze Age or the beginning of the Iron Age. However, based on the context in which the carvings from Valcamonica appear, associated with figures from the First Iron Age, we believe it is more reasonable to date the Italian carvings to this period. In any case it is important to be cautious when identifying these objects, meaning that although these facts are important to bear in mind, they should not form the essential basis of our argument.

Thirdly, it is important to indicate the presence of labyrinth representations in Galician rock art of Atlantic style as 12 carvings of this type have been found.

Many of the representations of labyrinths found in Europe and the Near East have been dated more or less precisely to a period from the 12th century BC until Roman times, with most belonging to the first half of the first millennium BC. Perhaps the oldest representation is found on a fragment of clay from the palace of King Nestor in Pylos, dated to 1200 BC (Kern 2000) or on a jar from Tell Rifa'at in Syria, from the 12th century BC; another well dated labyrinth is the figure on the *oinochoe* from

Tagliatella, dating from the 7th century BC. In any case, this design would survive until Roman times or even the early Middle Ages in northern Europe (Saward 2003).

Finally, we have horse riding scenes, which are relatively frequent in Galician rock art. The presence of carvings of this kind was used by Peña Santos and Vázquez Varela (1979) as well as García Alén and Peña Santos (1981) to date a number of petroglyphs from the first millennium BC, as there are no representations or evidence of horse riding in Europe or the Iberian Peninsula before the first millennium BC (Drews 2004). It is important to note that it is not possible to date the introduction of horse riding from the presence of horse bits, as these were frequently used with light carts. In any case, there are no representations of horse riding in Western Europe that date from before the first millennium BC.

Consequences

In fact, the presence of riding scenes and labyrinths in Galician Atlantic rock art would indicate that at least one of the moments in which this series of carvings was 'in use' dates from the first half of the first millennium BC. It was in 1980s when the chronology of Iron Age in Galicia was defined as we know it nowadays. The chronology was suggested by excavations carried out at the hillfort of Penarrubia (Lugo) from the 6th century BC (Arias 1979), the Penalba hillfort (Campo Lameiro), from the 6th century BC (Álvarez 1986) and the Torroso hillfort (near Vigo), from the 7th century BC (Peña 1992), as well as the 'rejuvenation' of the start of the Iron Age in northern Portugal, with some authors referring to an Iron Age starting in the 8th century BC (González 2003). Then, the traditional chronology for Galician Atlantic rock art begins and finishes within the same frame of the Bronze Age: 2400–800 BC (Santos 1998, 2004).

However, in the 1990s Peña Santos and Rey García (1993) presented a new chronological hypothesis. They proposed the so-called 'short chronology'. Based on a typological analysis of the halberds and daggers, they attributed them to a chronology ranging from the second half of the third millennium BC to the start of the second.

It is possible that the presence of halberds may reveal the presence of an early chronology for some of the petroglyphs with weapons although under no circumstances may we affirm that the use of these carvings was limited to the chronological period in which they were supposedly made. Also, Peña Santos and Rey García based their 'short chronology' hypothesis on the supposed relationship that existed between settlements from the end of the third millennium BC and the start of the second. We do not agree with this proposal for several reasons. Firstly, they include in the list of settlements places with isolated and de-contextualised findings, such as a metallic punch, small groups of pottery and burial sites, without offering any type of indication that may lead us to suppose that these are domestic sites; secondly, there is no criteria for the selection of the petroglyphs that they analysed, leading to the inclusion in their study of panels from different periods and styles. Neither do they offer any explanation as to why the proximity in some cases between rock carvings

and supposedly domestic areas is an indicator of contemporaneity. Furthermore, they situate locations where bell-beaker pottery was found in this period, when the latest data available indicates that this style of pottery continued in use until the Middle Bronze Age (Méndez 1994, Prieto 1999). Finally, these authors refer to a supposed crisis in the Mid-Bronze Age whose true dimensions are still unknown, although this would be the reason why we have not found any settlements from this period, a statement that has been proved false as a result of a series of investigations carried out in the Serra do Bocelo hills (Méndez 1994) and in monitoring public works projects (Lima 2000). This presumed crisis would have led to the disappearance of the tradition of carving rocks, although it fails to explain the cause-effect mechanism between this enigmatic crisis and the disappearance of rock art. In our opinion, the proposal of Peña Santos and Rey García should be viewed positively in terms of demonstrating that some carvings were made in the early Bronze Age, meaning most of the carvings of weapons, but that they do not provide sufficiently solid arguments to suggest why rock art was no longer made from the Mid-Bronze Age onwards.

Taking into account the results of the excavation in Os Carballos, the chronology of horse-riding scenes and the labyrinths, the destruction of some carvings in Second Iron Age hillforts, and the chronology of weapons on the Galician panels, we suggest the existence of, at least, two different groups that could very possibly be related to two phases of production within the Atlantic Style.

We would therefore have a first group with two kind of panels, one with a cup and rings (as in Ireland and the United Kingdom) and with weapons, possibly made during the Late Neolithic/Early Bronze Age, although this is difficult to know with any real precision; and a second group with cup and ring depictions, hunting scenes and riding, labyrinths and shovels made between the eighth and fifth to fourth centuries BC. Basically, this means that this second group would be from the same time as when the oldest hillforts in the north-western Iberian Peninsula were occupied. If this chronological proposal is correct, we are faced with an iconographic and chronological panorama very similar to that defined for the area of Valcamonica, where we have compositions from the Bronze Age dominated by the presence of weapons in vertical panels, and a second, more narrative group, with scenes of deer hunting, shovels and labyrinths belonging to the First Iron Age (Figure 2.5).

In this case it is possible that three of the great open air rock engraving areas: Scandinavia, Valcamonica and Galicia were contemporary in the first half of the first millennium BC. This new proposal creates a chronological context what would make possible contacts between different European rock art regions as Fredell proposes in this volume. The case of the British Isles and Ireland is more problematic; we know that at least some of the engravings were made in the Early Bronze Age (Bradley 1997, Beckensall 2002), these panels are similar to the first stage with just cup and rings in Galician rock art, but there are no figurative designs like in northwest Iberia.

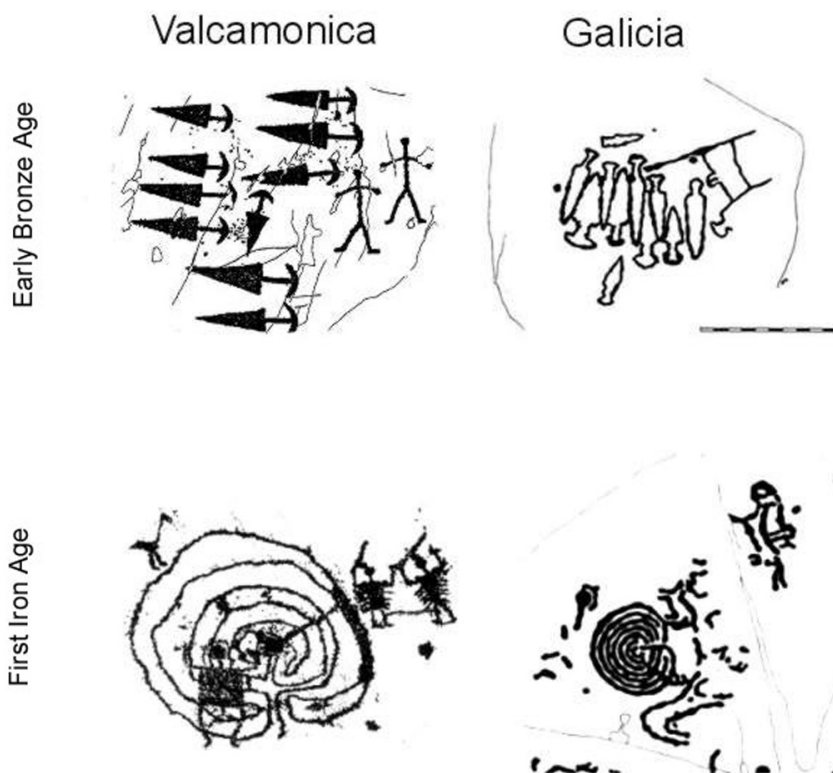


Figure 2.5: Iconographic and chronological comparison between Galicia and Valcamonica.

Anyway, in the Early Bronze Age the four great areas, including in this case United Kingdom and Ireland, were contemporary. But, does the British rock art disappear in the end of Early Bronze Age? Or has the British rock art the same chronology as that in continental Europe but without changes in its iconography?

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Elevated Rock Art

Maritime images and situations

Johan Ling

The aim of this article is to communicate the fieldwork conducted by the measuring of rock art and the surrounding terrain and how the prehistoric rock art and the landscape in the Tanum area may be perceived and understood in relation to shore displacement. New facts regarding the shore displacement during the Bronze Age in Tanum will also be presented. An essential aim of this study was also to present new and alternative chronological aspects of Bohuslän rock art. The outlined chronology was primarily based on the altitude of the ship types in relation to shore displacement. The resultant local rock-art chronology is based on rock art images from the local landscape, not on images taken from distant bronze items or graves. The study demonstrates clearly that the majority of the figurative rock art in Tanum was located close to the shore during the Bronze Age. These facts open up a new discussion about maritime social and ritual actions, positions and ideals as manifested by the rock art. I propose that the numerous configurations of ship images on the rocks could show a need to mark or manifest maritime transitions or positions in the landscape.

Introduction

A major hazard when working with rock art in the landscape of Tanum is the tug-of-war between shore displacement and the power and impact of today's landscape. It is difficult to grasp the transformations that the landscape of Tanum has undergone over more than 3,000 years and to recognize that in the Bronze Age major parts of this landscape constituted a seascape, with its strikes, islands, isthmuses, bays and lagoons. Then there is the absence of certain perceptual and sensory features associated with a seascape (such as sounds, smells, light), specific animals and vegetation (such as gulls, seaweed, salty winds and odours), accompanied by the presence of typical agricultural features (such as arable land, cattle, tractors, trees and land-based birds). All this seems to deny that Bronze Age rock art was made in a seascape environment. In other words, there is a series of important phenomena that cannot possibly be either observed or

recorded which leave you with more questions than answers concerning the cultural and natural features of the prehistoric landscape (cf. Helskog 1999, Goldhahn 2002). Sometimes it feels like chasing a ghost because even if the GPS clearly demonstrates that the terrain and the rock-art sites in question were once incorporated in an ancient seascape, it is hard to picture this lost scene. A Spanish colleague and friend, Doctor Manolo Santos, was right on the mark when he asked me: "Have you yet found your lost sea?"

The contemporary agrarian landscape has, of tradition, also governed and biased rock art research in Tanum, greatly due to a misunderstanding of the land-uplift phenomena but also due to evolutionary agrarian concepts regarding the Bronze Age society (Almgren 1927, Bertilsson 1987, Fredell 2003, Baudou 1997, Ling 2005, Nordenborg Myhre 2004). It has also been a tendency among researchers to favour the traditional so-called agrarian motifs, such as plough scenes, wedding scenes, chariots, net figures, sun horses and lure blowers that occur in numbers of ten or less in Tanum, this in relation to the 2,000 plus ship depictions in the area.

Why has so little emphasis traditionally been given issues based on the great variety of ship features, ship formations and ship scenes connected to real and ritual maritime interactions in the landscape?

Lately, however, attempts have emphasised spatial and social issues of the rock art in connection to Bronze Age maritime landscapes and interactions (Bradley 2000, Kristiansen 2002, 2005, Bengtsson 2004, Coles 2004, 2005, Kaul 2004). These attempts, however, have a propensity to either be too reserved (Bradley 2000, Bengtsson 2004, Coles 2004, 2005) or too general (Kristiansen 2002, 2005) as interpretations of rock arts' maritime situation and significance. The reasons of the more reserved maritime interpretations of rock art in Tanum may be that these attempts have based their altitudinal data on that information gleaned from the economic maps, which in turn are based on arbitrary and erroneous data regarding the altitude. Consequently, this has led to the reserved assumptions regarding the distance and altitude between the rock art and the Bronze Age shore-line.

It is suggested here that altitudinal studies of prehistoric sites in the area cannot solely rely on the arbitrary altitudinal facts of the economic maps. In this context it is necessary to apply specific GIS measurements of the rock art sites and terrain. Moreover, specific information about the shore displacement of the area is of crucial importance. On basis of a new study of lake sediments in Tanum, new specific facts about the shore displacement in the area and its effect upon the Bronze Age landscape/seascape will be presented here. This course of action may altogether contribute to an alternative understanding of rock arts' original setting in the landscape. In the following article this kind of approach will be demonstrated and conducted.

The aims and methods used for the study

This tentative attempt is based on three major conditions:

1. The obtained height data of the rock art in the areas (in relation to)
2. The new parameters concerning shore displacement of the areas (in relation to)
3. Comparative chronology, as for Flemming Kaul's latest scheme of ship renderings.

The first part of the study is limited to the Tanum parish. It was not possible to make a detailed map of each and every locality or terrain part in the area in question. I have therefore tried to sample some of the most significant localities and terrain parts containing rock art in accordance with the aim of this study. The case study also involves new aspects of chronology regarding the rock art in relation to shore displacement and comparative chronology. This part of the study encompasses rock art sited not only in Tanum but also in parishes further south such as Kville, Svenneby and Svarteborg. Nevertheless, these areas are located within such a close geographical distance from Tanum area, that the same parameter regarding the new shore displacement curve of Tanum could be applied. The discrepancy between the altitudes of the shore level of these areas is accordingly less than 0.5 metres (Påsse 2001). I am fully aware of the problems connected with these two methods, especially concerning the earlier phases of the ship chronology but also with the problems concerning shore displacement (Kaul 1998, Ling 2004, 2005, Nordenborg Myhre 2004, Berntsson 2005). I am therefore conscious of the fact that this analysis cannot generate or provide an absolute instrument of dating rock carvings.

The project was subsequently focused on and conducted through GPS and total station measurements of low-situated rock art with typologically datable motifs along with the surrounding terrain. Each measurement was made just beneath the lowest ship motif on each panel by means of GPS information with an accuracy of two centimetres concerning longitude, latitude and height. Occasionally entire rock-art panels were also measured. All reliable coordinate systems local, regional and national, were tried, applied and compared. Initially the coordinate system used for measurements was RT 90 7.5 gon west. This system was further compared with the other major system RT 90 2.5 gon west. For this purpose several fix points within each area were measured and correlated. In all areas these systems corresponded within the sources of error allowed for this study, a common distributed error of about five centimetres considering longitude, latitude and height. However, before moving on to the case there are some matters that have to be clarified.

Possibilities and constraints regarding landscape reconstructions, altitude, tide, rock art and terrain

The conclusion of the measurement of the low situated rock art sites and terrain in Tanum has generated some general facts and ideas about the prehistoric landscape. Some broad chronological and spatial patterns could be outlined about the measured

rock art sites in relation to the shore displacement of the area. First of all, the sea was a very present and adjacent feature to the sites during the entire of the Bronze Age, but also during the Pre-Roman Iron Age. However, this statement needs to be discussed further and for this purpose there are some specific altitudinal conditions that must be considered. First of all, the measured terrain parts, but also the altitude of the rock-art localities, diverged considerably in relation to the height data on the economical maps: in general a discrepancy on 1–3 metres, sometimes even more. Swedesurvey AB among others explains this phenomenon simply by the earlier method of interpreting and creating economic maps using air photography (Engberg 1998, 25, Eklundh 1999, 15). This fact was also revealed after GIS measurements of rock art and terrain in areas situated further south, as for the lower parts of Kville and Askum. Furthermore, the new GIS measurements demonstrated that the sea had been considerably close to the rock-art sites during the Bronze Age regarding these particular areas.

Thus altitudinal studies of prehistoric sites and monuments in the area cannot solely rely on the arbitrary altitudinal facts of the economical maps but must subsequently be complemented by specific GIS measurements. Moreover, due to general measurements and ocular estimation the position of the rock art sites has never been fixed by proper measurements; their position and altitude on the economical maps must therefore be regarded as arbitrary.

Furthermore, the lower plain areas have been intensively cultivated for at least two centuries – some terrain parts since medieval times. Recent archaeological and geological surveys in these areas confirm these agricultural processes and show that at least 1–1.5 m of agricultural sediments have been accumulated, moved and deposited from higher grounds towards the lower terrain parts (Lindholm 1997, Algotsson and Swedberg 1997). This means that the altitude of these terrain parts must have been at least one metre lower during prehistoric times. A third crucial condition concerns the maximum sea-level variations and whether these affected the location and production of the prehistoric rock art. Today's tides in central and northern Bohuslän are very small in comparison with most coastal areas of the world; the range is typically 30 cm only. Larger fluctuations in the west-coast sea level depend mainly on winds (particularly those over the North Sea) and on air pressure (Rydberg 2000). While strong winds may cause a set-up or set-down of 50 cm or more, air pressure may cause maximum elevations of ± 30 cm. In narrow estuaries, the local wind may increase the maximum sea level by another 50 cm, while for example the Gothenburg maximum high level is 169 cm, and the low level is -110 cm. These large variations occur primarily during the autumn and winter season (Rydberg 2000). During the spring and summer the variations in sea levels are considerably less, in general ± 50 cm. It is likely that these variations in sea level were similar in the region during the Bronze Age (Rydberg 2000). With all these facts in mind, it seems far more logical that rock art in general was made during the spring and

summer (Helskog 1999). A normal-sized ship depiction takes about 10 hours to finish (Bengtsson 2004) and it is logical to assume that the images were placed and made on locations where the making of rock art was not interrupted by the tide.

Consequently, all of these altitudinal adjustments provided us with a generally lower altitude of the rock art and the terrain at the lower parts, and this fact opens up for the following general statement or perspective: During the Bronze Age, the sea was very adjacent and present to the rock-art sites in Tanum (Ling 2004, 2005). In this context we may define parts of the area as a seascape during the Bronze Age. This condition makes it possible to discuss new issues concerning the production and chronology of these localities.

The following questions may therefore be addressed to this attempt: In what specific way did the ancient shore level affect the rock art sites and the adjacent landscape? How close was the sea to the rock-art sites and were some of the carvings even made at the water's edge? Had the sea been a major device for setting and if so would this fact throw more light on rock art as a socio-ritual medium for communication? How does the new data considering shore displacement relate to the comparative typological/chronological dating of the rock art and for how long were the panels in use?

The rock art and the landscape of Tanum

The landscape of the Tanum area is characterized by fissure valleys with gravel deposit on higher grounds and low extensive plain areas with clayey soils. Granite hills, outcrops and rocks frame and define this landscape with its open plains, narrow valleys and passages. Another major characteristic of the area is a large interconnected lowland area, the Tanum plain. The majority of the rock-art sites are located on the edge of the granite hills, towards the lowlands. The area has the highest rate of rock-art sites in the whole of Sweden, more than 630 sites (Figure 3.1) and has therefore attracted and engaged researchers with different aims and methods for more than two centuries (Brunius, 1832, 1868, Holmberg 1848, Almgren 1927, Bertilsson 1987, Kaul 1998, Fredell 2003, Coles 2005).

The parish also demonstrates a considerable number of other prehistoric graves, settlements, stray finds and hoards (Holmberg 1848, Almgren 1927, Bertilsson 1987, Algotsson and Swedberg 1997, Herner 1999, Coles 2005). On the higher parts of the granite hills several cairns (163), stone settings (292) and barrows (112) are to be located (Figure 3.1). There are only two gallery graves within the area which is considerably few in comparison to the grave types from the later periods. From this area also derives a considerable number of settlement finds (178) as well stray finds (76) and hoards (54) mainly dated from the Neolithic to the Iron Age. Moreover, several flint artefacts have also been recorded within the area dated from the Late Neolithic I to Early Bronze Age II, as for 81 daggers, 14 triangular arrowheads, and 88 sickles and saws (Bertilsson 1987, Algotsson and Swedberg 1997). A total number of bronze items (18) have been registered from the entire parish. The bronze items range from the transition of Late

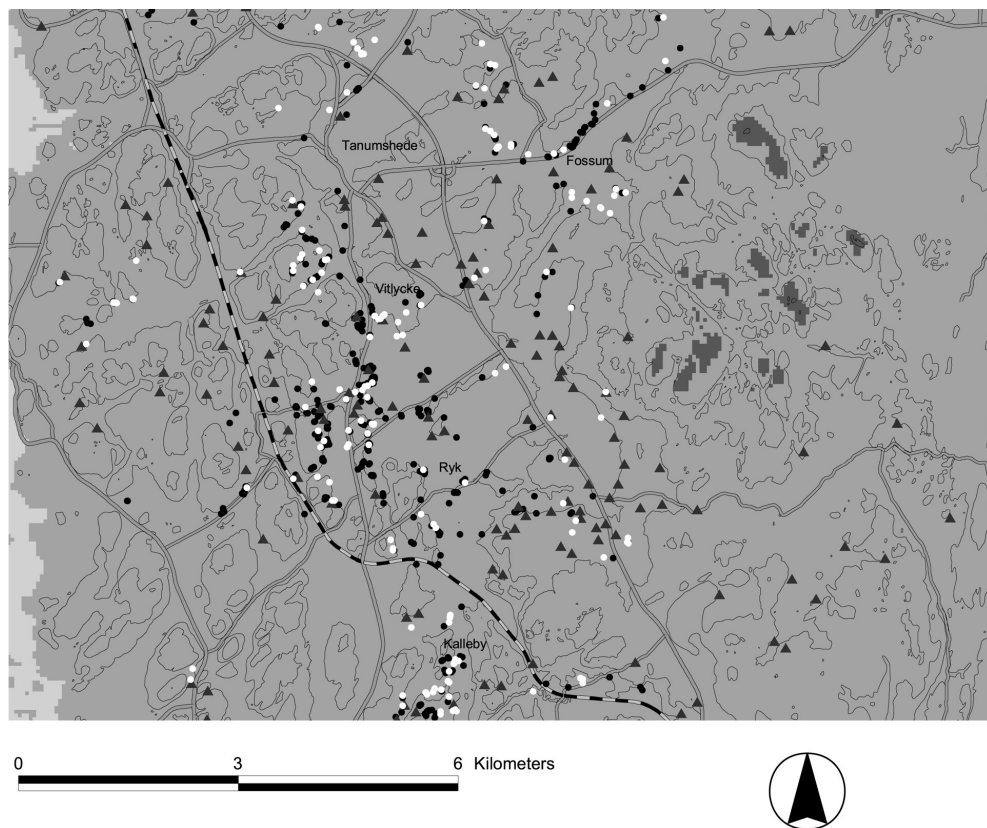


Figure 3.1: The spatial distribution of figurative rock art localities (black dots) cup mark localities (white dots) and settlement finds (triangles) of the Tanum area.

Neolithic II to Late Bronze Age VI (Bertilsson 1987, Vandkilde 1996, Algotsson and Swedberg 1997, Herner 1999). The majority of the settlement finds have been found on the higher parts, approximately 500–1500 metres east and south-east of the lower plain area where the majority of rock-art sites are located (Figure 3.1). As well as this, the parish demonstrates the highest rate of flint daggers (81) and sickles (88) of the whole of Bohuslän (Algotsson and Swedberg 1997, Apel 2001), and this fact displays the area's potential and significance of dwelling and interaction during Late Neolithic I to Early Bronze Age (Apel 2001).

Nevertheless, let's turn to the main topics of this analysis. The new shore displacement data of the Tanum area demonstrates that the sea level during the beginning of the Bronze Age was about 16–17 m.a.s.l. and towards the end of the Bronze Age about 10–11 m.a.s.l. The new study was based on “diatom analysis, organic carbon content analysis and AMS-radiocarbon dating of terrestrial macrofossils combined with threshold levelling and litho- stratigraphical studies. The interpretation of the results

is that Raftötångstjärnet (a local lake) was isolated from the sea *c.* 1385–1200 BC. The isolation threshold, today uplifted to 13.8 m.a.s.l., was at the time situated at the ocean shore” (Berntsson 2005, 34–5).

The new study indicates a slight higher value of shore displacement regarding the Bronze Age than the earlier suggested curve by Tore Pässe, probably due to an improvement in method for the latter study (Pässe 2003, Berntsson 2005, 33). The new study indicates that the sea level was closer to 14 m.a.s.l. about 1300 BC. The value of the new curve is highly interesting and it confirms an earlier hypothesis based on the measured altitude and estimated age of the rock art in Kville (Ling 2004, 2005). This geological prerequisite gives us a general idea of the rock art situation in the prehistoric landscape.

The interpretation of rock art’s general situation in relation to shore displacement

Thus, the majority of the carvings in Tanum seem to have been situated close to the contemporary shore during the Bronze Age. About 70 per cent of all the carvings in Tanum are located on lower ground in areas which used to constitute smaller bays or lagoons, isthmuses, strikes, or small islands, during this period (Figure 3.2). Moreover, on the whole this study supports Kaul’s comparative ship chronology and demonstrates a clear chronological correspondence between the typologically-estimated ship depictions on the panels in relation to the regression of the ancient shore level (Kaul 1998, Ling 2004). However, there are some examples of ship depictions that clearly diverge from Kaul’s taxonomy. Before entering the subject of dating, there is more to be said about the rock art in relation to shore displacement. I have tried to conclude some of the most essential observations made within this study by the following points:

- The obtained height data of the rock art sites demonstrate a close spatial connection to the sea shore during the entire Bronze Age. The majority of the rock art seems to have been situated closer between 0–100 metres from the sea shore. Moreover, out of these, the larger part was also situated between 0–20 metres of the sea shore. (However, only a minority of these rock art sites, about 10 per cent, seems to have been located just at the water’s edge. The majority were instead located on elevated hills and outcrops, just a couple of meters (3–7) above the Bronze Age the shore-line that stood just at the foot of these hills (Figure 3.2)).
- The ship depictions, positions and formations have the greatest impact and dominate the panels not only by their size and frequency but also with their elaborative styles and utterances. The content and situation of the panels may speak in favour of the fact that these were meant either to reflect the actions, conditions or ideals at sea. Some sites were probably meant to be seen from the sea, at least from a close distance.
- The prevailing seascape during the Bronze Age would thus have connected and united areas with rock art and made these sites considerably more accessible than today.
- The strategic maritime setting of the rock art in a transitional shore-zone may reflect

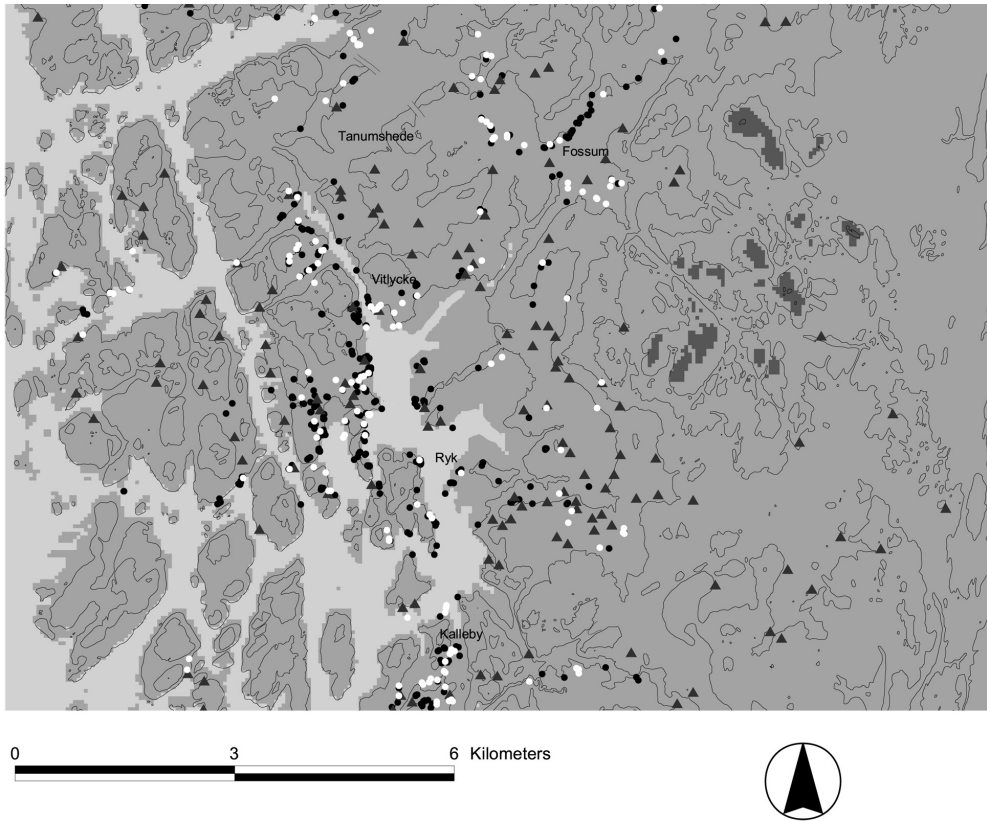


Figure 3.2: The map demonstrating the Tanum area during the Early-Mid Bronze Age, with a shore-line at 14–15 m.a.s.l. and figurative rock art localities (black dots), cup mark localities (white dots) and settlement finds (triangles).

different forms of maritime movements, interactions, positions, initiations, ideals and traditions. Some of these panels may also have functioned as strategic meeting points between land- and sea-going communications.

Thus low situated localities with ship features from the Early Bronze Age (1700–1500 BC, Coles 2005, 22) are in general situated within the north-western part of the plain on altitudes that range between about 25–17 m.a.s.l. During the Middle Bronze Age (1300–900 BC, Coles 2005, 22) the rate of localities are increasing considerably and the activity tend to follow the regression of the shore displacement. Low-situated localities with ship features from the Late Bronze Age (900–500 BC, Coles 2005, 22) are generally located within the southwestern part of the plain on altitudes that range between about 20–13 m.a.s.l. Finally the low-lying localities with ship motifs from the Pre Roman Iron Age (500–300 BC) are generally to be found within the southwest and western part of the plain on altitudes that range about 17–13 m.a.s.l.

Consequently, it seems as if the spatial and chronological structure behind the making of the rock art, in a broad sense, tended to follow the regression of the shoreline. The sea had thus had a great effect on this landscape in the Bronze Age. Thus, the environmental or climactic condition subsequently affected the rock art activity both in terms of location and content. Therefore, the sea may have affected and mirrored the rock art activity on different physical, social, ritual and cognitive levels. However, the Bronze Age people did not follow the regression of the shoreline; they rather made rock art at specific places in the landscape/seascape that corresponded to their social norms and traditions. It is also important to stress that some sites were located with no sight or reference to the sea at all.

Beside this praxis there seems to be a parallel action of making the rock art, regardless of the shoreline, which can by no means be explained by the same causes and conditions.

At many places, as for Vitlycke, Aspeberget, Tegnaby and Litsleby, it seems as if panels were altered, merged, re-vitalised and upgraded during later periods (Högberg 1995, Milstreu and Prøhl 1996, Fredell 2003, Coles 2005).

Two concepts may be used to describe these actions: *depictions of social landscapes* and *depictions of social memory of a place*. Some of these rock art panels were first made close to the sea, perhaps in order to connect with or meet interactions or ideals at sea. As the seascape turned into a landscape, some of these sites became remembered, re-negotiated or revised into upgraded places of memory and tradition.

Another important conclusion is that because of their angle and degree, only a few panels of rock art could have worked and functioned as communicative signs over a wide area. Many of the panels have inclines of 10–20 degrees which means that these must be perceived from a close distance. Only those with a 40 degrees inclination or more may have fulfilled this wider function, which in this case constitutes only a minority of the panels in question, about five percent. These facts may falsify theories that emphasise the wide range visibility and function of the rock art in the landscape (Nordbladh 1980, Nordenborg Myhre 2004). This function could have been possible within a range of 0–30 metres, however. Panels with a large incline at the sea shore may therefore have been best perceived from a position achieved from a boat that passed or aimed at these particular panels as kind of a landmark. There are some rock art-sites made on vertical or almost vertical panels as for Tanum 17, 19, 232, 311, 344 (Högberg 1995, 2000 Milstreu and Prøhl 1996) that may have been designed to be seen from the seaside. The seascape would also rather have connected and united areas with rock art.

The study also clearly demonstrates that out of all the figurative motifs of the investigated panels the ship depictions are doubtless the dominating ones, especially on lower grounds (Bertilsson 1987). Of the non-figurative motifs the cup mark is the most frequent and often occurs in equal or greater numbers to the ships (Bertilsson 1987). Another general rule for setting is that the localities with cup marks only seem

to be most frequent on higher terrestrial grounds, close to prehistoric dwelling sites (Figure 3.2). In a wider south Scandinavian context, cup marks seem to have been sited considerably closer to the Bronze Age settlements than the figurative motifs (Wahlgren 2002, Bengtsson 2004, Ling 2004, Eriksson 2005, Goldhahn 2005, Kristiansen and Larsson 2005, Ling 2005).

Moreover, some rock art sites seem to implicitly or explicitly illustrate the landscape or actions connected with the landscape. Most of the ship images, for example, were made close to the shore. Also, human figures, animals and ship images in a broad sense appear to have been represented and adjusted after certain landscape concepts and ideals. Thus, the largest human images were made on higher ground, such as the panels Tanum 75, 248, 255 and 405, and are abnormally large in relation to the ship depictions on the same panel. On lower ground, human representations seem more or less to have been adjusted to the size of the ship images.

The specific setting of rock art in relation to shore displacement

In the following part I will give an account of some of the most significant low-situated rock-art localities with typologically datable ship-depictions which fulfils both general and specific criteria's of Kaul's ship chronology (Kaul 1998). Thus, the succeeding analysis aims towards a more narrow examination of the ships in the landscape in relation to shore displacement and comparative chronology.

Out of a body of 70 measured rock-art localities with over 400 ship depictions a further 17 localities with a total number of 132 ship depictions have been abstracted. The altitude and content of these localities makes these into qualitative examples that will be used in a discussion regarding these ship types' chronologies in relation to shore displacement's respectively comparative chronology. Consequently the following localities in Figure 3.3 have been sampled.

On the whole, this study supports Kaul's comparative chronology and demonstrates a clear chronological correspondence between the typologically estimated ship depictions on the panels and shore displacement. However, some examples of ship depictions do clearly diverge from Kaul's schema and these observations may help to modify the chronological conception of Bohuslän rock art.

The location and the content of one locality, Tanum 311 is of special interest to the analysis. I will therefore describe this more thoroughly than the others.

The "Runohäll" at the Ryk area (Tanum 311)

"Runohällen" (the runic panel), located at Ryk, some 30 m from the Gerum River, is one of the most outstanding rock art panels in the Tanum area. It faces southeast, is rather large, 9×6 m, and parts of it are inclined at a considerable angle (up to 50–60°). It consists of no less than "84 ships, 36 human figures, 23 animals, 14 foot soles, 3 ring crosses, 2 circles, 1 mast like figure, 3 obscure figures and 119 cup marks" (Högberg 2000, 36).

Parish	Area	Localities	M.A.S.L	Reference
Kville	S. Torp	15640208	15.65	(Fredsjö 1981, 273)
Kville	Hakeröd	15640228	15.58	(Fredsjö 1981, 293)
Kville	Hakeröd	15640226	14.20	(Fredsjö 1981, 302)
Kville	Hakeröd	15640227	15.20	(Fredsjö 1981, 301)
Kville	Edsten	15640112	14.45	(Fredsjö 1981, 36)
Kville	Edsten	15640113	12.80	(Fredsjö 1981, 38)
Kville	S.Ödsmål	15640172	13.88	(Fredsjö 1981, 172)
Svarteborg	Rom	16030013	13.20	(Coles 2005)
Svenneby	Nasseröd	16040006	14.80	(Fredsjö 1971, 15)
Tanum	Gerum	16060311:	14.73	(Högberg 2000, 36)
Tanum	Tyft	16060234 :1	13.07	(Högberg 2000, 27)
Tanum	Knäm	16060468	17.93	FMIS
Tanum	Orrekläpp	16060369	13.64	(Högberg 1995, 99)
Tanum	Orrekläpp	16060241	14.13	(Högberg 1995, 91)
Tanum	Tyft	16060234:2	13.75	(Högberg 2000, 27)
Tanum	Tyft	16060425:1	13.21	(FMIS)
Tanum	Tyft	16060425:2	13.01	(FMIS)

Figure 3.3: The following table encompasses the abstracted 15 qualitative examples of rock-art localities that may contribute in a dating discussion in relation to shore displacement respectively comparative chronology.

There are some remarkable figures and combinations of animals, such as the scene with several interconnected animals as well as an extremely large bull-like figure and a sun-horse connected to a ship (Fredell 2003, 164, Kaul 2004). One of the most discussed motifs is a complex pole figure with different kinds of lines and humans attached to it and it has traditionally been interpreted as an archaic depiction of a “may pole” (Baltzer 1881, Almgren 1927, Almgren, B 1987, Bertilsson 1987, Hygen and Bengtsson 1999, Fredell 2003, Kaul 2004).

Attempts have been made to date some of the ship images on the panel. For instance, some scholars have claimed that the panel presents ship features from period Ib onwards (Kristiansen 2002, 2004, Fredell 2003), others that ship features from period II onwards are represented (Almgren 1987, Bertilsson 1987). The low altitude of this large, complex rock art panel is very unusual, especially compared with other complex rock art sites in the Tanum area (Bertilsson 1987, 148). It seems that the panel was in contact with the sea throughout the Bronze Age. The measured altitudes of the images on the panel are notably low, ranging from the lowest ship depiction at 14.7 m.a.s.l to the highest at 16.2.

The low altitude of this large and complex rock art panel is, indeed, a very unusual setting, especially compared to other complex rock art sites within the Tanum area (Bertilsson 1987, 148). Relating the GPS measurements of altitudes on this panel to

the parameters concerning shore displacement in the area suggests that the panel can be divided stratigraphically into three chronological phases:

1. The upper part of the panel emerged from the sea during the transition between period I–II, at which time the shoreline was about 16–16.5 m.a.s.l.; this includes a tidal movement of 0.5 m. It would then have been possible to make the ships at the top of the panel.
2. During the subsequent period II the sea level retreated to approximately 15–15.5 m.a.s.l., making it possible to peck on a large part of the surface, though the work would have been interrupted by a tidal movement of 0.5 m. Bearing this in mind, it may be more logical to assume that the lower part of the panel was made when the shoreline had retreated below the entire surface.
3. During the next phase, period III, the sea retreated from the entire panel to an altitude of 14–14.5 m.a.s.l. The lowest engravings would still have been close to the water's edge.

A closer examination of the rock art images on this panel, seen in relation to the two independent dating methods, comparative chronology and shoreline dating, suggests the following. Of all the depicted features, the most frequent and dateable is clearly the ship. However, there are plenty of ship images as well as other features and scenes, such as human figures with weapons and head gear, that point to a late date, presumably period V. During the Late Bronze Age the sea level retreated to 12 m.a.s.l., which means that the shoreline cannot serve as a deductive dating parameter of the Late Bronze Age features of the panel.

It is therefore necessary to concentrate on the earlier ship images, which are fortunately the panel's dominant features. At first glance it seems that the panel has ship depictions from period Ib but a closer stylistic examination of these ships and their relation to the ancient shoreline suggests another chronological conclusion. The ships at the top left of the surface, above the "bulls", show these traits – such as inward turned stems, two paired crews and slightly upturned keel extensions – but some of them also display animal heads, which suggests a later date – presumably period II–III.

Beneath the large bull there is a cluster of seven ship depictions of great interest (Figure 3.4). All these ships have inward turned stems and horizontal or slightly upturned keel extensions and some have paired crew strokes. Today, the altitude of the ship just under the bull is 15.88 m.a.s.l. and that of the lowest ship in this cluster is 15.24. In terms of Kaul's chronological scheme, at first glance these ships seem to match the Rørby ship of period Ib (Kaul 1998, 88). However, a closer examination shows that the stems of some of these ships are almost vertical and that the keel extensions are not horizontal, like the Rørby ship's, but rather upturned.

Moreover, two ship images to the left in this cluster strongly resemble the ships on the slabs of the Sagaholm barrow, dated to period II or III (Goldhahn 1999, 144, 150). Nevertheless, the altitude of these ships in relation to the Bronze Age shoreline suggests an earliest date of period II rather than period I, particularly since the tidal movement is taken into account.

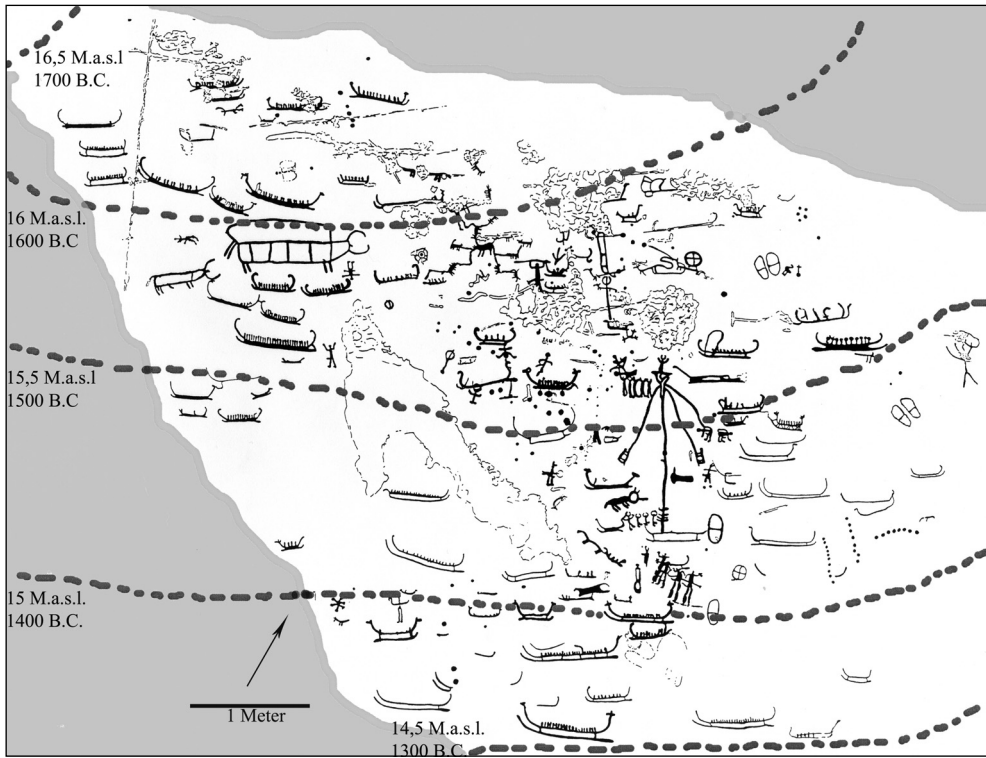


Figure 3.4: The figure demonstrates “The Runohäll”, Tanum 311, with the measured terrain curves. Documentation performed by Milstreu and Prohl.

The strongest argument for the later date is another, similar ship situated at a lower altitude on the panel. This ship has been cut over by another ship depiction that bears a strong stylistic resemblance to the ships of the Wismar horn. Its location and shape can clearly contribute to a dating discussion. The ship is almost identical with the ship features beneath the large bull. Its altitude today is 14.95 m.a.s.l. and the altitude of the shoreline at the beginning of period II is in the region of 15 m.a.s.l. The tidal movement makes it reasonable to assume that this ship was not made until the shoreline had retreated to 14–14.5 m.a.s.l. The conclusion is thus that the over-cut ship may be related to period II or to an early phase of period III, when the shoreline was closer to 14 m.a.s.l.

This particular ship, with so many traits in common with the ship features in the mentioned cluster – inward-turned almost-vertical stems, slightly-raised keel-extension, a line between the stabiliser and the aft stem, similar crew strokes etc. – suggests a date from the same era, in this case period II–III. The main factor behind this dating assumption is the altitude of the shoreline.

It is also noteworthy that several “Wismar-style” ships occupy the lowest engraved area and the lowest of them all bears a striking resemblance to the ship types on the

Wismar horn. Starting from period III as the estimated date of the Wismar horn (Glob 1969, 49–55, Malmer 1981, 33, Randsborg 1993, 98–9, Kaul 1998, 92) and taking the features of the rock art panel and the shoreline in this epoch into account, suggests the following interpretation: During period III the entire engraved area was fully exposed because by then the shoreline had retreated to 14 m.a.s.l. Under these circumstances, the ship features on the upper-left-hand part of the panel, with their strong resemblance to ships from Sagaholm slab no. 6 contribute to the panel's chronological interpretation.

Thus, with reference to comparative chronology and shoreline-dating, it seems that a large number of the ship features on this panel primarily originated in a late phase of period II or III. Even if some ship features were made over a long period of time, most of them seem to have been pecked during period III. But the first rock art does appear to have been initiated during period II.

Apparently, the making of rock art on this panel became a tradition that lasted through the entire Bronze Age, most likely because of the panel's maritime location in the seascape.

In concluding the observation made at the Runohäll, the following statements could be made.

- Out of the shore displacement as a parameter the panel could be divided stratigraphically into three chronological phases: (i) The upper part of the panel was raised from the sea at Early Bronze Age Period Ib. (ii) During the preceding phase – Early Bronze Age Period II – it would be possible to carve on a large part of the surface. (iii) During Early Bronze Age Period III, the sea had retreated from the entire panel down to 13.5–14 m.a.s.l. (Figure 3.4). However, the lowest of the engravings would still have been situated just at the water's edge.
- The maritime situation and content of this panel indicates different forms of maritime conceptions and ideals about movements, interactions and positions in the landscape. The panel may also have functioned as a strategic meeting point between land-going and sea-going communications. All these conditions, features and images may speak in favour of the fact that the panel was used and reused for many different maritime purposes over a long time.

A tentative ship chronology of the landscape

In this final section, the most significant ship images in this case are considered in relation to shore displacement simply by placing them in the new shore displacement schema for the Tanum area. Figures 3.5 and 3.6 clearly show that the ship depictions at the highest altitude have inward curved stems and horizontal or highly upturned keel extensions. The more upturned keel extension on the later ship images distinguishes them from the earlier ships. This is the case with the ships from Kville 172.

The keel extension becomes even more accentuated during period IV–V, as in the case of Tanum 425 and Svarteberg 13. The stems appear to be a less significant

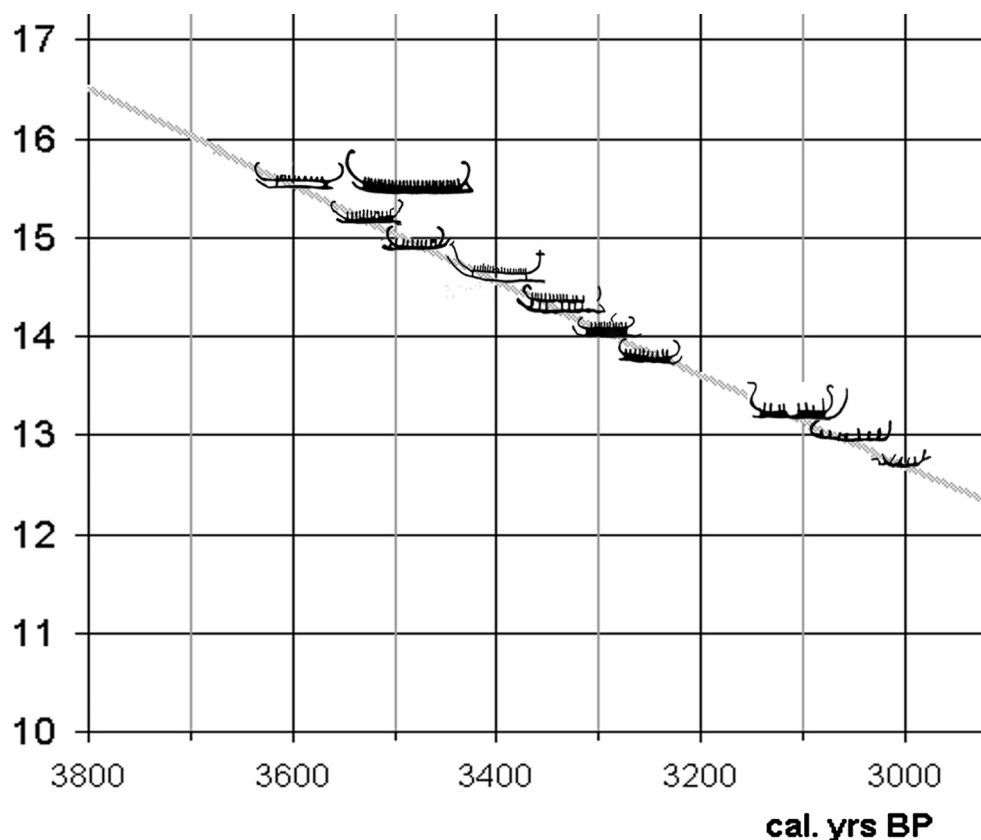


Figure 3.5: The lowest of all the measured ship carving in relation to the new shore displacement curve. The figure is based on the major parts of Berntsson's shore-line figure of Tanum. Note: This figure does not demonstrate the general altitudinal distribution of these ship types in the landscape, only the lowest rock art ships.

chronological feature than the keel extension, because inward-turned stems also occur at localities with typical Late Bronze Age features, for instance Tanum 62 (Högberg 1995, 30) and Kville 228 (Fredsjö 1981, 293). The altitudes of these particular localities likewise indicate period I–II. Other Scandinavian examples with ship features, such as the Hjortekrog grave (Widholm 1998) present similar chronological traits (Kaul 2005, 124). Moreover, Kaul has stressed this with regard to bronze items (Kaul 1998).

Nevertheless, the shore displacement data show that the lowest ship images with outward turned stems that end up in an animal head could not have been made before period IV. The ship feature from Tanum 425 illustrates this. In addition, it presents a bird-like animal head, a trait that is typical of period IV (Kaul 1998, 89).

Finally, the lowest of the measured ship depictions have some very specific characteristics. They are symmetrical and have a bifurcated stem fore and aft. These characteristics are assumed to be typical chronological features of the Pre-Roman Iron

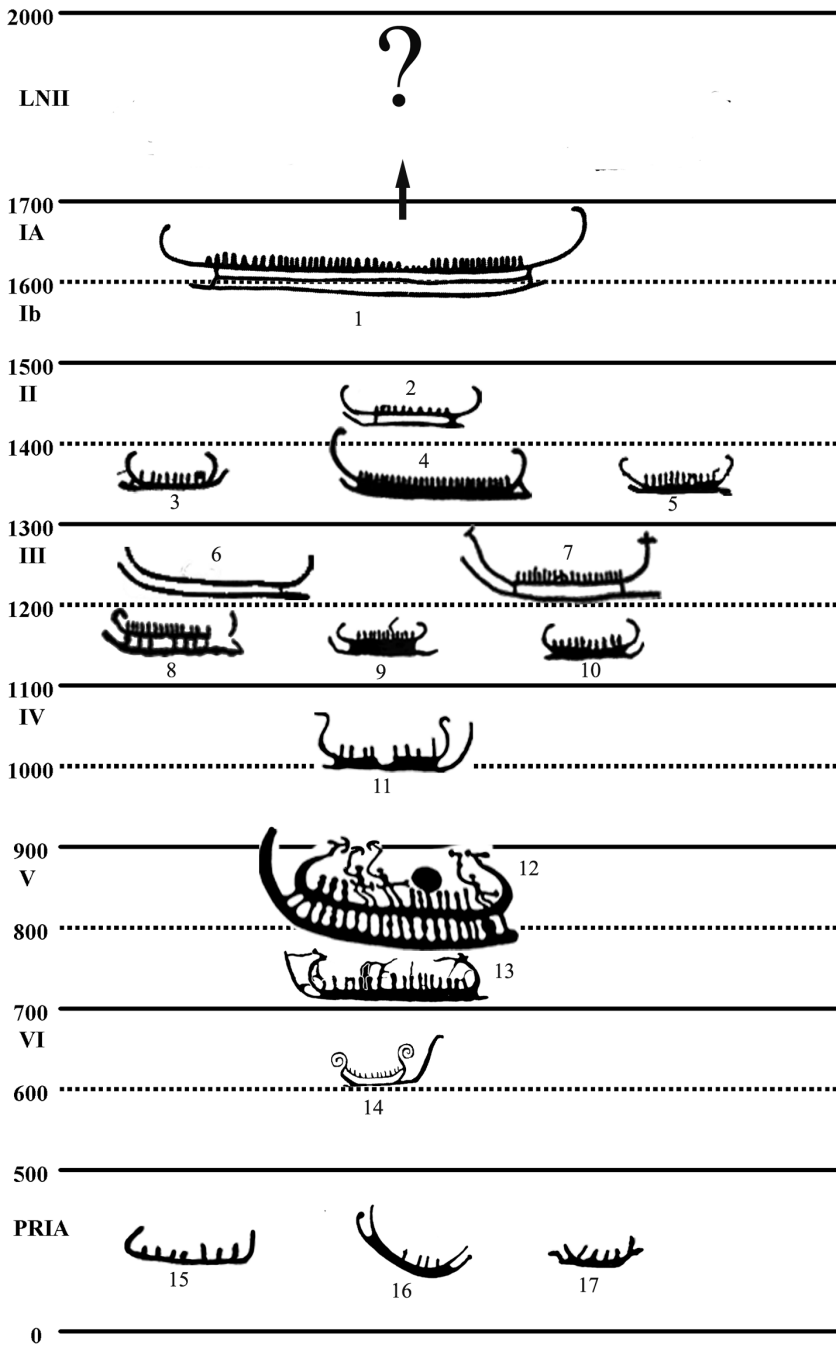


Figure 3.6: The tentative ship chronology of the landscape. In accordance with the outcome of this study this figure is then an agreement between the altitude of the ship carvings in relation to shore displacement and comparative chronology.

Age (Kaul 2003, 192–5). However, shore displacement made it possible to create these ship images as early as the transition between periods IV and V, so these observations do not automatically justify dating these ships to the Pre-Roman Iron Age. On the other hand, such a dating is supported by the fact that localities with typical Pre-Roman Iron Age features, such as symmetrical Hjortspring-like ships and horse riders with rectangular shields, are situated at the lowest altitudes, for instance Tanum 241, 369 and 474. Moreover, single-lined ship features are also represented on the lowest panels, for instance Tanum 234 and 425:2.

Another observation concerns localities with ship depictions that display traits which are typical of the earliest phase of the Early Bronze Age, period I, traits similar to the ship depiction on the Rørby sword, dated to period Ib. This applies to localities such as Tanum 22, 66 and 1740 (Högberg 1995, 1998, Milstreu and Prøhl 1996), Kville 156 and 157, and Svenneby 21, 30 and 40 (Fredsjö 1971, 1981). All of these ship depictions present traits that are typical of the earliest phase of the Early Bronze Age.

None of these localities is at an altitude today below 19 m.a.s.l. This may indicate that these ship images were made before the Bronze Age, presumably during the Late Neolithic. That would, indeed, be a logical assumption, especially considering the large amount of Late Neolithic material in these areas. It would also suggest that the depicted ships were based on real vessels and an existing boat-building tradition and knowledge (*e.g.* Marstrander 1963, Kaul 1998, 2003, and Østmo 2005).

Another noteworthy fact is that some of the ship depictions at these high altitudes are very similar to some of the Norwegian ship images that have been connected to the Late Neolithic II (Mandt 1991, Sognnes 2001, 2003, Nordenborg Myhre 2004, Østmo 2005). So why are all these early ship images located at such high altitudes? Why have none of these typical ship images been placed closer to the seashore, like the later ship images from period II to the Pre-Roman Iron Age?

Might it be logical to assume that open-air rock art, such as ship images, was first made and articulated in the landscape and was then acknowledged as functional social and ritual symbols which later ended up on bronze items and graves? There is, however, no other material evidence, such as ships depicted on items, graves, etc., that supports such an assumption.

But if the altitude of the rock art in the areas considered here does not have anything to do with the rock art's age, why are so many ship features from the Bronze Age and the Pre-Roman Iron Age sited at specific altitudes, the former on higher ground and the latter towards lower ground?

This attempt at a tentative ship-chronological synthesis of the landscape is illustrated by Figure 3.6. The concept of chronology that has been outlined so far is primarily based on the altitude of the ship types in relation to shore displacement. This final ship scheme, however, is based on the agreement between, or a synthesis of, two chronological methods that seem to harmonize very well, namely shore displacement and comparative chronology.

This generalisation may be of some chronological relevance for rock art in Bohuslän but one should be cautious about removing or abstracting ship features from their landscape context. It is instead preferable to study the context of motifs on these panels and the setting of the specific panels in relation to shore displacement.

Conclusion

The landscape has been the point of departure of this study and I will also conclude this attempt with issues and statements regarding the landscape/seascape. I have subsequently tried to conclude some of the most essential results of this study.

The obtained height data of the rock-art sites demonstrate a close spatial connection to the sea shore during the entire Bronze Age. A large number of the rock art sites seem to have been sited closer between 0–100 metres from the sea best part of shore.

The ship depictions, positions and formations have the greatest impact and dominate the panels not only by their size and frequency but also with their elaborative styles and utterances. The content and situation of the panels may speak in favour of the fact that these were meant either to reflect the actions, conditions or ideals at sea. Some sites were probably meant to be seen from the sea, at least from a close distance.

The prevailing seascape during the Bronze Age would thus have connected and united areas with rock art and made these considerably more accessible than they are today.

The strategic maritime setting of the rock art in a transitional shore zone may reflect different forms of maritime movements, interactions, positions, initiations, ideals and traditions. Some of these panels may also have functioned as strategic meeting points between land-going and sea-going communications.

On different symbolic and pragmatic levels the seascape may have inspired and affected the making, the utterance, the position and the content of rock art in the area during the Bronze Age. However, there are also areas with lots of carvings on higher ground at some distance from the sea. Thus, rock art has been located in different types of landscapes and its prehistoric functions and relations should be regarded as complex and full of nuances (Helskog 1999, Nordenborg Myhre 2004, Goldhahn 2005). But it is important that we try to define and distinguish the different patterns and relations of rock art (Bengtsson 2004). A task of great interest would be to analyse and discuss the differences and similarities regarding content and context between the “terrestrial” and “maritime” areas of rock art in Bohuslän and its relation to other prehistoric remains. A pattern of interest is that complex rock art sites tend to be situated in accessible and communicative locations in the landscape, generally away from the settlement. This trait holds both for the “maritime” rock art as well as the rock art on higher grounds, while less complex localities tend to be situated closer to settlements and graves (Bengtsson and Strid 2005).

I began this attempt by discussing the difficulties in analysing and understanding areas with rock art which have been severely affected by land uplift. However, the outcome this fieldwork has given is that I see more of the potential and possibilities

of this phenomenon instead of all the problems. This study has, then, resulted in some answers but it has also left us with further questions. Why was the making of rock art so intense during the Bronze Age? What societal action or interactions may have caused the making of these elaborative images and utterances? And how much correspondence does the rock art have with the other prehistoric remains in this specific landscape/seascape?

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A Mo(ve)ment in Time

A comparative study of a rock-picture theme in Galicia
and Bohuslän

Åsa C. Fredell

This paper summarizes some of the results of a comparative study on a rock-picture theme 'the Sun deer', that was carried out as a part of my post doctorate study at the Landscape Archaeology laboratory of the Padre Sarmiento Institute of Galician Studies in Santiago de Compostela. Based on these results and with the aim of putting them in a greater context by way of a case study where two rock-art panels are set in focus, I will suggest a hypothetical mo(ve)ment in time where people from distant places in prehistory came in direct contact. This requires a developed methodology where the concept of time is treated more flexibly, and partly also a new (more specified) chronology of Galician rock art which will be argued for. My aim is not to deliver undisputable facts, but merely to open up for discussion the possibilities of using rock art as a more direct source material for creating and testing hypotheses.

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Introduction

Comparative studies of, or including late pre-historic European rock art, have often emphasised the iconography of common motifs as it has been used for chronological purposes (for relative dating of rock art itself) or as a "decorative" illustration to more general investigations related to society, trade or interaction. The traditional comparative method used has followed an evolutionary structure where the objective has been the search for an origin and the tracing of its spread in a space- and time-related equation (*e.g.* Montelius 1903, Childe 1926, 1957, Dumézil 1988). This method and its results have in several cases been criticised as it was used during the 1920–30s in contemporary politics to support certain values that we today, and of course I here and now, take exception to (*e.g.* Poliakov 1974, Renfrew 1987, 35, 108, Kemiläinen 1998, Fredell 2003, 63–7).

In this article, my aim is to leave this static view of time behind, to put rock art in the centre of the investigation, and to develop the comparative methodology as a methodology associated to a more complex typology and context (see the suggested methodological steps in Fredell and García Quintela ch. 5, this volume). Rock art is here considered as a potential archaeological source material when regarding contacts between in space distant societies. I will propose that rock pictures, when identified as a specific expression of communication and while placed in a seafaring context, may be especially sensitive of incorporating elements as echoes of peoples' movements and related experiences (for more recent examples of this see Flood 1997, 216, 291, 315–6, Stone 1995 fig. 4–73d and 4–74c).

There were probably many different types of movements, ways of making contacts and of finding routes for trade and exchange in prehistory; making contacts and creating networks is a fundamental human behaviour (Dickinson 1994, 200–57). In Atlantic and Mediterranean Europe, the similarities in materials and techniques, the need of contacts, of having one or several contacts for the same source-material, the contacts' nature of being either peaceful or aggressive, together with the question of whether they were made directly between places distant in space or kept indirect through a red of connections, have all been discussed (*e.g.* Harding 1984, Bouzek 1985, Kristiansen 1998, Suárez Otero 1998, Ruiz-Gálvez Priego 1998, González-Ruibal 2004, Kristiansen and Larsson 2005). In this case, I prefer neither but instead belong to the many saying that in late prehistory and in Atlantic Europe – being a vast period of time and a vast area of space – most likely, all of these different types of contact were represented. However, instead of discussing this important and general question I have chosen here to investigate a specific and potential case study which is based directly on a hypothesis drawn from a certain material culture, namely rock art.

I will investigate a case of hypothetical contact between Backa (Bohuslän) in south-western Sweden and Barbanza (Galicia) in north-western Spain sometime during Montelius' period IV–VI *i.e.*, 1100–500 BC, indicated by the similarity of a pictorial composition on two rock-art panels which came to my attention while conducting a comparative study based on the similar occurrence of an identified pictorial theme; the "Sun-deer". This theme is composed of one or several deer figures directly or indirectly (proximity-based) related to one or several circular figures. In this article, I do not discuss whether the circle is supposed to be a sun, a moon or a waterhole (see Criado Boado ch. 8, this volume). Being a symbol it is most likely all of the suggested – and more. I would like to emphasise that the circular figure simultaneously is a simple and complex figure uniting a universal shape and a multitude of possible contents. Its many and possible meanings are to be found in its chronology, context and relation to other figures, the rock and the landscape. In this article I deal only with circle figures deliberately composed with deer figures. I refer to the symbol as a sun (to make it easier) but would like to emphasise the possibility of the circle being both the sun and the moon in the discussed context.

Hypothesis: Two of the same?

On a panel in Barbanza, A Coruña, Galicia and on a panel in Backa, Bohuslän, Sweden we can observe a complex set of similarities within two compositions of Sun-deer that in both cases may be connected to a series (Figure 4.1). The compositions contain several coherent elements, positions, directions and relations within the compositions as well as between the two compositions on the same panel. These are not general similarities based on shape, but specific pictorial elements organised within an intentional and local expression. This example, based on complex sets of similarities in material culture, leads to the question of whether there might have been some type of contact established between these places in late prehistory or if this similarity in figurative expression is merely a fortuitous coincidence? Since archaeologists for now do not know any other depictions on movable material of similar scenes and composition and if these types of complex similarities are not coincidental, they could indicate that people from one place have seen (the panels are visible and in open air) the pictures from the other or have heard a detailed description of them. The fact that the scenes are made in immovable rock (not loose transportable objects), and that in both cases they clearly had a meaning within their local rock-picture producing tradition, need to be explained.

It is commonly believed that any type of prehistoric connections displayed in material culture have to be contemporaneous. And many may dismiss these suggested similarities (Figure 4.1) claiming that there is a difference in chronology. Since deer figures in Galicia share the space on many (but not all) panels with cup and ring figures, they have been believed to be contemporary (Peña Santos and Rey Garcia 1993, 2001) and hence dated to the Late Neolithic and Early Bronze Age (2500–1500 BC) on the basis of a similar cup and ring tradition on the British Islands (Bradley 1997). Based on recent pictorial analyses (Fredell 2006) however, excavations and research (Santos Estévez 2008, Santos Estévez and Seoane Veiga ch. 2, this volume) I strongly believe that the existing relative dating of deer figures and *some* of the circle figures (simpler and more varied forms) needs revision. Also, the traditional chronology of deer and circle figures groups the motifs together without differentiating between their internal variation and contextual use on the panel, thus creating a static time perspective. I could list many more reasons why this chronology needs a revision (see also Santos Estévez and Seoane Veiga ch. 2 this volume), but this will not be the aim of this article since, if we think logically, it has no relevance for the discussion. The specific age of the Galician deer-composition has no importance. The important thing for a logical reasoning is that it was there to be seen around the time the same deer compositions were made in Backa, approximately sometime during 1100–500 BC. In the same way as we can see the deer figures on Monte Gurita today, they could have invoked an interest in prehistory that resulted in a contemporaneous (or later) “replica” at Backa. Both a revised chronology of deer and circle figures (based on internal variation) – as well as the possibility of existing places with a history playing a role in the present of prehistory, needs a more elastic view of the concept of time.

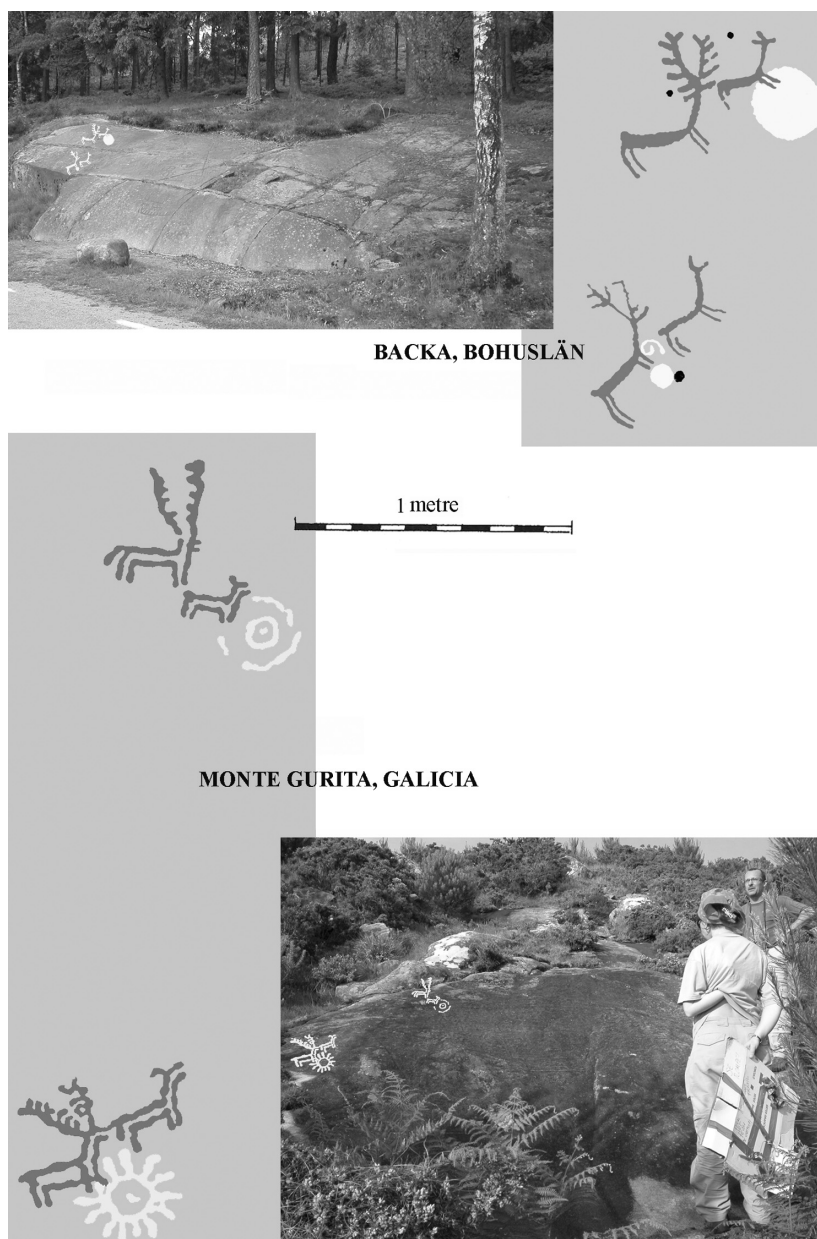


Figure 4.1: The figure makes a comparison between a series of Sun-deer from a panel named Monte Gurita in Barbanza, Galicia (below), and in Backa, Bohuslän (above). The frames are shown in the same scale and with the accurate distance between scenes. On the photos of the panels the position of the scenes is indicated by the enhanced figures. The sun figure with rays from Monte Gurita is made using a natural protuberance as body. Documentation of Monte Gurita is revised after Mariño del Río (2001) and of Backa after unpublished documentation in the archive of Vitlycke museum.

There are similarities in motifs and the complex composition of the two related scenes and the ordering of the three components: stag, doe and sun/moon, but at the same time their style *i.e.*, technical execution and preferences in details such as positioning the stag's spikes on the inside or outside of the antlers or the choice of different circle symbols fits perfectly within its local context and tradition. The composition of a stag and doe in Barbanza is repeated twice as is the case of the panel from Backa. In the first scene, seen from the lower left (in both cases according to the animals movement direction), the circle-symbol is associated directly to the front-legs of the stag. The doe is situated in front of the stag. In the second scene, the stag is still behind the doe but the circle is now directly associated to the front-legs of the doe, which appear to be entering into the sun or moon. The spatial relations of the two panels in the landscape, of the compositions on the panel and between the two compositions on each panel are thus coherent.

The above compared scenes belong to different local contexts even though they are expressed in the same media. In order to evaluate the relevance and significance of these similarities I am going to examine the pictorial theme to which the scenes belong, separately and as shapes, contents and contexts before a proper comparison can be made (as suggested in the methodological steps in ch. 5, this volume).

The following text should be considered as a summary of the results of a more elaborate statistical study of the 'Sun deer' in Galicia, Bohuslän and Valcamonica which I conducted as a post-doctorate study at the Landscape Archaeology laboratory of the Padre Sarmiento Institute of Galician Studies in 2004–6. The identification of the two congruent compositions at Monte Gurita and Backa was not the start of my hypothesis, rather, an unexpected discovery within this comparative study and statistical analyses of the more general combination and previously known existence of connected deer and circle-figures in Bohuslän and in Galicia (Fernández Pintos 1993).

A comparative study of the 'Sun-deer'

As for the shape and the general pre-conditions of the investigated pictorial theme there are many phenomena found in both areas (Galicia and Bohuslän) that appear to be similar and deserve to be commented upon before we move into the details of its content, meaning and possible connection. We tend to present our investigations from the general to the specific, but methodologically I argue that we should conceive the results working in the opposite direction (see the methodological steps suggested and used for comparative analysis in Fredell and García Quintela ch. 5, this volume).

As picture on a rock

The first and most evident similarity between the pictorial theme investigated in Bohuslän and Galicia is that they both belong to the same type of rock picture *i.e.*, knapped figures on slightly sloping panels of granite situated along the edges and exposed to an open-air maritime landscape of long-valleys. The landscape in Galicia

and in northern Bohuslän, during the relevant period, has an obvious parallel in the many low and protective estuaries and rivers that lead into the mainland. In both cases the rock pictures have been placed along the natural passages that lead into or out of (depending on direction) the landscape like strings of pearls, although the rock art in Galicia is normally placed higher up in the landscape (see Santos Estévez ch. 9, this volume).

Supposedly, these pictures (in Bohuslän and in Galicia) on open-air rocks were produced vaguely contemporaneously (approx. 2000–500 BC, give or take 500 years in both directions) by preliterate societies living close by the sea or along important passages in the landscape. Places that would be important bases for controlling movements and commerce. In this article I will limit myself to discussing only the latter part of this time period.

Pictures are an expressive material in themselves and by the implication that they were used as a communicative device and as social memory in these societies (Fredell 2003) they are most likely as media to reflect any type of foreign influences, achieved by any type of contact. With the identification of influences and questioning how these were used within a local tradition and context we may get clues as to what type of contacts the society experienced.

As picture in a tradition

This type of late prehistoric and *figurative* rock pictures were made alongside important passages or entries in the landscape. There are three more comprehensive centres, in Europe which *partly* could be considered contemporaneous and that share many common motifs in the discussed time period (1100–500 BC); Scandinavia, Galicia, and Valcamonica (Figure 4.2). What these traditions of production of pictures has in common, besides being a material expression of complex, preliterate and bronze-producing societies, is that it was introduced with links to or by depictions of or on *metallic weapons*. The introduction phase, which we will set aside in this discussion, was followed by an enlargement in the variation of depicted motifs (a phase which many common motifs can be identified between the areas), and this phase (not the tradition) is finalized with the appearance of *attributive* large-sized figures. In Galicia these figures are figures of stags while those in Bohuslän (Litsleby, Legene, Sotenäs and Backa) and Valcamonica (Naquane: 70, In Val: 4) are mainly male anthropomorphs. In Valcamonica, the trend of attributive large-sized figures seem to continue over several centuries as the famous figure known as ‘Cerunnos’ is dated to approx 500 BC and the warrior figures from In Val can be dated (by the type of weapons they are carrying) to approx. 100 BC (Anati 1994, fig. 132). In Scandinavia there is also a new type of large-sized and more naturalistic ship (Boglösa) and in Valcamonica there are also large-sized riders.

It is important to note that these areas all have their local traditions of picture-making, for example Galicia and Valcamonica seem to have local forerunners in the

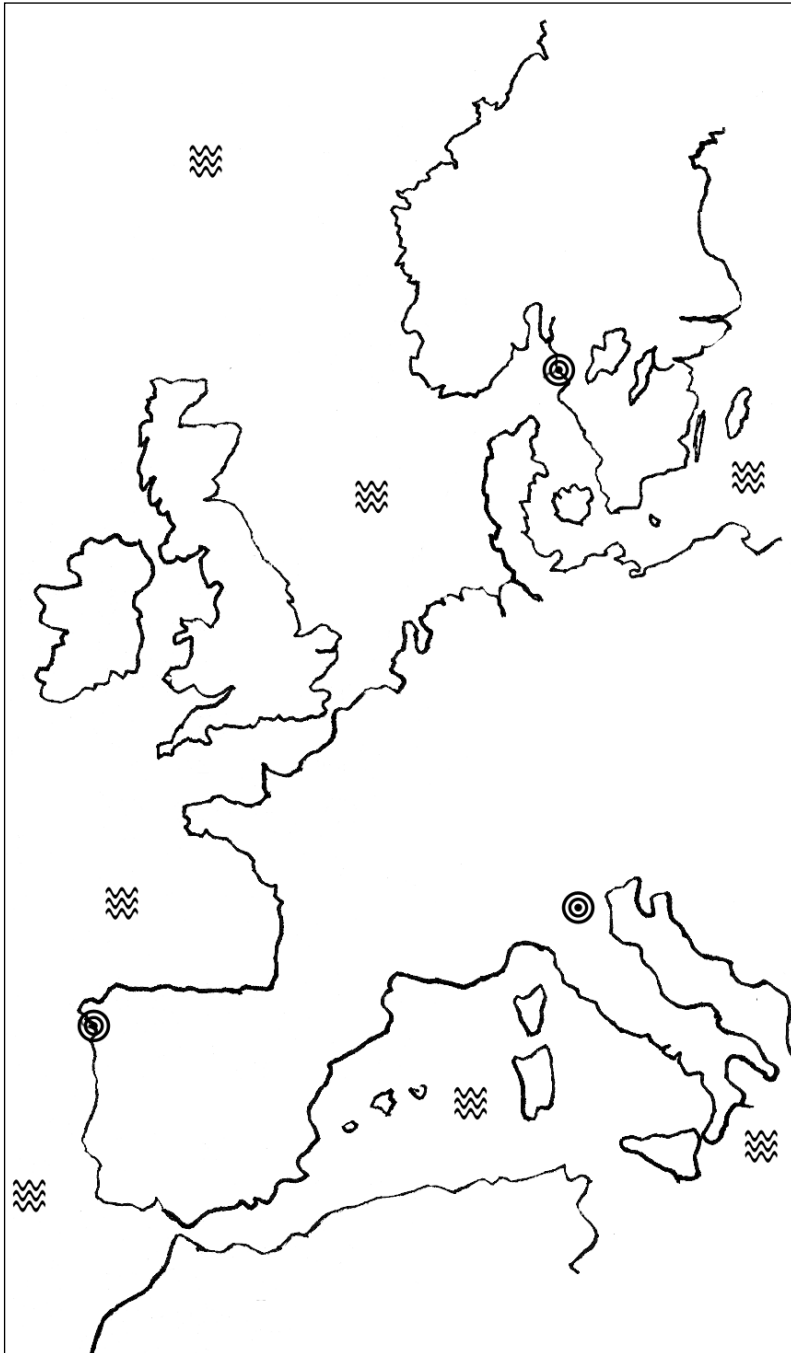


Figure 4.2: Map of the “Atlantic Europe”. The circles indicate the positions of the three rock art centres in Bohuslän (Sweden), Rias Baixas (Galicia) and Valcamonica (Italy).

tradition of megalithic art (stelae and, or chamber-tomb constructions), but my line of reasoning is that these traditions – during more limited times or phases – come together, probably – and as here suggested – as a result of commerce and contacts. It is *one* of these periods (1100–500 BC) and a supposed interaction – a *mo(ve)ment in time* – that is discussed in this paper. It is suggested that this *mo(ve)ment in time* took place *c.* 800–700 BC; a time when the Atlantic Network was well underway (Kristiansen 1998, González-Ruibal 2004), a century before the first known Phoenician traces are left in Galicia (Ayán Vila *et al.* 2005), and when a ship with trading goods such as tin, copper (800 kg) and bronze objects (>1.700 kg) sunk in the Mediterranean just west of Cap d'Agde (Parker 1992, Nash Briggs 2003). This is also the time when we find several deposits of bronze ingots in the shape of axes along the southern fjords of Galicia (García Bellido 1946, Rodríguez Paz and Hidalco Cuñarro 1993). These axes, typical for the north-western part of the Peninsula (Monteagudo 1997, Tafel 57, 85, 87, 139) have occasionally been found in places such as Sardinia (Ruiz-Gálvez Priego 1986, map 2, Lo Schiavo 1998, González-Ruibal 2004) and interestingly also in Kvarntorp (Östergötland) in Sweden, nearby a smaller centre of rock-art panels (*Göteborgs museums årstryck* 1920, 82–3, Nordén 1925, 164–7).

As pictorial theme

A fact considering the Sun-deer as a distributed pictorial theme in Galicia and Bohuslän is that it is just one of several motifs based on the deer figure. Also, more naturalistic motifs and hunting scenes are common, but these will not be considered here (for a summary and interpretation of Galician hunting-scenes see Santos Estévez 2005). The theme, here to be investigated, is composed by one or several deer figures in a direct or indirect (but unquestionable) relation to one or several circular figures, here interpreted as sun symbols. Also, within the 'Sun-deer' theme, several sub-themes are found that are partly common and partly different for the compared areas. The Sun-deer motif, present in many different regions, has several demonstrably localised styles. Furthermore, the Sun-deer theme exhibits an evident geographical centralisation in Kville (Bohuslän) and Campo Lameiro/Cotobade (Galicia), (Fredell 2006).

Analysing the pictorial contents...

The separate databases, used as basis for the analyses of the Sun-deer in Galicia and the deer figures in Sweden were set up according to the same model and with the same pictorial conditions. The Sun-deer in the database for Galicia all come from the provinces of Pontevedra and the south-western part of A Coruña. They have been registered and documented by García Alén and Peña Santos 1980, Peña Santos and Rey García 2001, Mariño del Río 2001, and documented digitally by several archaeologists working in the registration and documentation of rock pictures at Instituto de Estudos Galegos Padre Sarmiento (CSIC-XuGa) in Santiago de Compostela. For Bohuslän, all Sun-deer in the database have been registered in the archaeological reports from Vitlycke museum

1, 3–6 (Högberg 1995, Bengtsson and Högberg 2000, Bengtsson *et al.* 1997, 1998, 2002), *Dokumentation och registrering av hållristningar i Tanum 1–2* by Milstreu and Prøhl 1996, 1999, the series of documentation of the hundreds of Kville, Bottna and Svenneby by Fredsjö *et al.* 1971, 1975, 1981 and the archive of Vitlycke museum where unpublished material was included from the parishes of Tossene and Skee. Several of the motifs in Galicia, as in Bohuslän, were controlled on the rock manually, especially with the purpose of confirming important details that may have been lost, added or altered during time or the process of documentation. Besides the traditional geographical data, other variables relating to the figurative components were investigated, such as subtypes of pictorial motifs, gender, and subtypes of circles as the internal composition of the figures, their placement on the panel, their direction, orientation, and association as well as the exact placement of the circular figure in relation to the body of the deer, eventual attributes and possible manipulation. Variables and constants were analysed in different ways in order to answer direct questions or to create new questions, the relevance of which could later be controlled in practice.

It was obvious that the Sun-deer, in both areas, had a much more complex identity since the motif could be composed by one or several deer of the same or different gender (doe, stag, young stag) and one or several circle-figures of different shapes (for a discussion about the Sun-deer's existence and identity in Galicia see Fredell 2006). The most common combination in both areas was a single deer and a single circle-figure, however, and to make things easier the word Sun-deer will be used when referring to all possible combinations within this theme. One of the first observable results was that the Sun-deer in the Swedish rock pictures was exclusively limited to central and northern Bohuslän. There are many other rock-art centres in Sweden such as in Scania, Östergötland and Uppland, but there are hitherto no known sun-deer in these areas. (Literature of documentation consulted for this statement are: Althin 1945, Nordén 1925, Burenhult 1980, Kjellén 1976, Kjellén and Heyenstrand 1977, Coles 2000, relevant archaeological reports of Botark, Riksantikvarieämbetet, local museums and Fornsök, former FMIS- the national register of ancient remains).

...the figurative context...

The immediate figurative context of the Sun-deer is different on the panels in Bohuslän when compared to Galicia. The Galician panels can be described as motif-dominant while the panels in Bohuslän normally expose a much bigger variation of different types of figures and scenes on each panel. The same is true also for the relation to other types of figurative material. The rock pictures of Bohuslän are part of a much more varied figurative world of reference as similar motifs are expressed on other types of material, principally on different types of bronze-objects (Sprockhoff and Höckmann 1979, Oldeberg 1933, Kaul 1998). This is, however, not applicable for the Sun-deer as figurative motif, as it lacks parallels on the bronzes (Gelling 1969), where the Sun-horse or other animals with connections to the sun (the bird, the fish, the snake) are

represented instead, mainly on razors (Kaul 1998). In Galicia, the rock pictures are the only (hitherto) known figurative expressions of their time.

Despite the differences in the immediate pictorial context it is possible, in both areas, to identify a deliberate manipulation of the Sun-deer on the rocks where details have been added, changed or where new meaning could have been created through the incorporation of older, or the addition of new, figures (for the incorporation of older circular combinations in Galicia see also Fernández Pintos 1993, 119–20). This practice indicates that the theme had an active and adjustable role in society and that the interpretation and communication of the pictures emanated from an interplay between image and man (Fredell 2004). Both areas experienced a societal need or will to up-date and re-use this pictorial theme (Figures 4.3–4).

The motif of a deer on the panel of Os Carballos in Campo Lameiro, Galicia (Figure 4.3) raises many chronological and technical questions about composition as it unites myths or known pictorial themes like the Sun-deer (the composition of the deer with the older “existing” circular figure in the characteristic position close to the head), the hunt motif (the lances in the back of the deer) and perhaps the myth of ‘Caesar’s deer’ (the collar – for explanation of the myth see Bath 1992) or the conception of the deer God Cerunnos in a zoomorphic shape – if the collar should be interpreted as a torque (García Quintela, pers. comm.). These themes are all differentiated in time. It is fully possible, but impossible to prove, that the deer motif, as it is perceived on Os Carballos today, is the result of several reinterpretations and pictorial manipulations by people who used the present motif on the rock and added figures or details to communicate a new meaning.

Figure 4.4 is one (of several) examples in Bohuslän of how a horse-figure could have been manipulated and transformed into a deer-figure.

...and the composed pictorial theme

When departing from the Sun-deer as a pictorial motif in its most general sense *i.e.*, as a composition of deer (singular or plural) directly or indirectly connected to circular figure(s), all compositions in Galicia and in Bohuslän totally and naturally correspond, since this was the elected theme to be investigated. Looking more to the details of each composition, and if the composition of the theme is divided into specific elements, the differences increase and the styles become local (though it is still possible to identify many similarities). Among others these include the preferred direction of the deer (to the right), the varied position of the circular figure – all around the deer, the varied representation of stags and does, separately and in combination, and the variation in the representation of the circular figure (cup-mark, circle/s, cup-and ring/s, sun-cross, wheel, spiral, circle with rays etc.) even if repeated on the same panel and in composition. Furthermore, when considering the sub-themes and tendencies of preferences among the motifs, there are more and more differences. The most important difference, which may lie behind and explain other differences, is the disparity in quantity of Sun-deer

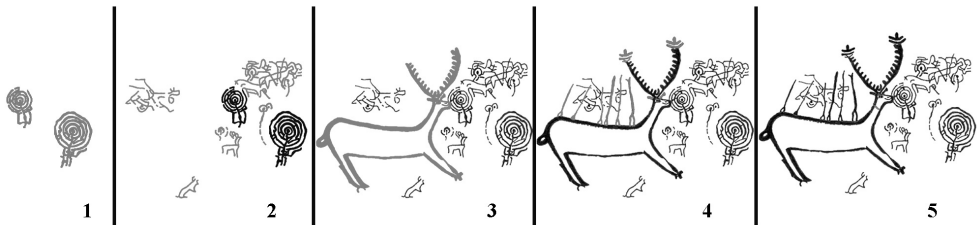


Figure 4.3: The big deer figure on the panel of Os Carballos, Galicia. A suggestion of phases of possible additions and manipulations (in grey) of this part of the panel are given below the photo from left to right, 1–5. These phases, from the complex circular figures (1), the smaller deer figures and simpler circle figures (2), the big deer (3), the spears, ears and endings of the antler (4) to the collar (5), possibly stretches over a time period of more than three thousand years.

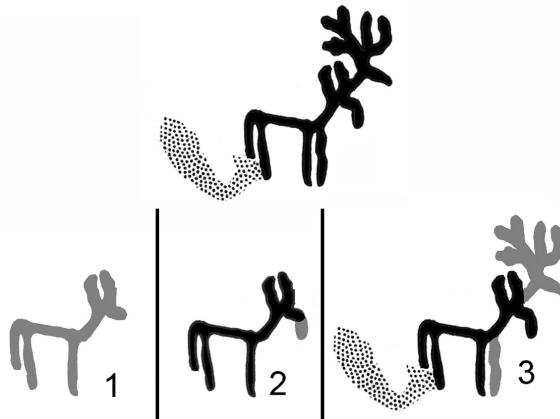


Figure 4.4: The documented figure from Bohuslän: Raä 204 could in the beginning have represented a horse (1). Later it could have been modernised (2) adding a small line by the head that gives the horse an elk-like crooked muzzle, a praised detail seen on horse depictions on hanging-vessels from 950–700 BC (see catalogue in Sprockhoff and Höckmann 1979). Finally the figure was transformed into a deer as an extra head was added together with an extra front leg, which cunningly changes the figure from a horse with two depicted legs into a deer with four depicted legs where the tail of the horse constitute the back leg (3). The different phases of manipulation (where additions are shown in grey) are seen joined to the right.

compositions. Bohuslän has only thirty compared to over a hundred in Galicia and this should also be seen in relation to the total number of figurative pictures which is much higher in Bohuslän if compared to Galicia. The Sun-deer in Galicia is a more common and integrated motif as well as being geographically more dispersed. It is logical to conclude that the Galician Sun-deer is the result of a more enduring phase of production when compared to Scandinavia – where the Sun-deer instead give the impression of being very limited in both space (only the central and northern parts of Bohuslän) and time (a more uniform composition). This is important when I later consider types of possible contact.

In Bohuslän, where the material probably is more limited in time, the most frequently depicted Sun-deer is a stag with fully-spiked antlers, the same preference that seems to have been preferred in Galicia during the final phases of the production of the Sun-deer motif when large-sized and attributive stags or so called “machos” are being made.

In Galicia, there is also a tendency to place the circular figure above the back or on the rear of the doe as well as in front or in contact with the front-legs of the stag. In Bohuslän, the tendency is to position the circular figure behind the stag or in close proximity to or as part of the antlers.

All known and here-included examples of the Sun-deer in Sweden can be localised to the central and northern coast of Bohuslän. It is therefore, geographically-speaking, a highly limited pictorial theme. Also, the practice to change horse figures into deer figures (Figure 4.4) and the parallel use of the Sun-deer in similar compositions as the Sun-horse (Figure 4.5) are specific for this geographical area and this indicates that the Sun-deer was locally introduced as an alternative or was synonymous with the locally already known and geographically more dispersed Sun-horse the earliest depiction of which is known in the famous Trundholm composition dated to approx. 1350 BC

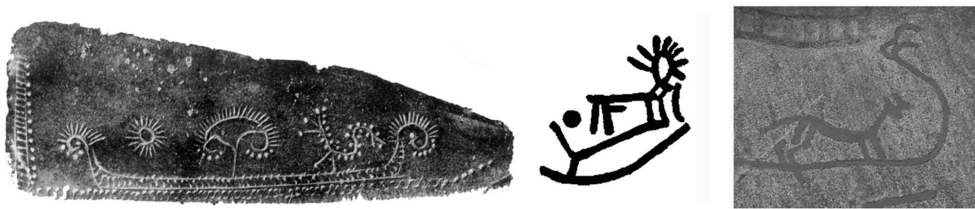


Figure 4.5: The figure gives examples of “landing” Sun-horses and a Sun-deer (middle) where only the front legs of the animals touch the ship. To the left is a bronze razor with a landing Sun-horse from Vandling, Denmark (revised after Kaul 1998, cat. no. 339). Landing Sun-horses are also seen on panels, for example in Backa (the photo on the right). In the middle is a landing Sun-deer from Sandåker in Näsinge parish (revised after unpublished material in the archives of Vitlycke museum). The antlers of the deer from Sandåker are shaped like a sun. It is obvious that the deer in this position is given the same function as the Sun-horse. Deer are never seen on bronzes from the Bronze Age and we know it from similar positions as the Sun-horse – only in central and northern Bohuslän. This type of razor normally with spiral handle and this type of iconography is datable to Montelius’ period V i.e. approx. 950–700 BC.

(Nerman 1939, Randsborg 1993, Kaul 1998, Goldhahn 1999). The chronological suggestion of the Sun-deer in Bohuslän to approximately no earlier than 800 BC is supported by the fact that Sun-deer representations on bronzes are lacking as well as the use of the deer in the similar and narrative position as the “landing” sun-horse on datable razors (Figure 4.5). The choice of the preferred position of the circular symbol *behind* the stag may refer to a local adjustment of the traditional Sun-horse that always carries the sun-disc behind the head or body, while the direct relation to the antlers or the front-legs of the deer is something new that has evident similarities with the Galician Sun-deer.

From horse to deer?

It is a highly interesting and relevant question, from a comparative perspective, why there in Bohuslän seems to exist a local transformation and modernisation of an older pictorial theme – the Sun-horse, in which the horse was being replaced by the deer? The role of the Sun-deer – judging from the material evidence – was probably that it partly and locally replaced or came to share the role of the Sun-horse as the mythological carrier of the sun. This may not even have been a new phenomenon since the circular figure on rocks and bronzes in Scandinavia also are seen with other animals such as the bird, the fish and the snake (Kaul 1998, Bradley 2006, Kristiansen ch. 6, this volume). Some answers of why the deer was chosen for this role may be found in the changing role of the horse in the local society. In Bohuslän, during the early Bronze Age, Montelius periods I–III *i.e.* approx. 1700–1100, the horse was a relatively uncommon animal mainly used in rituals. With time, the conditions for the horse changed since it became more common and used for breeding, traction and riding as the results of an increased domestication. Perhaps there was a need for a regeneration of a partially worn out mythical animal? The horse was no longer the same unique, wild, and exotic animal it had once been. It had become an integrated economical asset for the society and local horse-breeding had made this animal more common. The horse’s chaging role is supported by bone materials from settlement excavations (Ullén 1996, 2003), but there is also information found in the rock pictures that show the horse in new situations; in herds, copulating, mares with fowls, horses attached to wagons or horses mounted by riders. The deer, as a closely related animal to the horse, may have offered a tempting alternative, since it still contained the important components earlier possessed by the horse (wild, exotic, unique), but furthermore it also contained new connotations to fertility, regeneration, time, and power (Bath 1992); themes that were to become more and more requested in the society with the shift from bronze (import-based) to iron (locally extracted).

Also, it is highly relevant to discuss what differences the Sun-*deer* as pictorial motif in Bohuslän shows in comparison with the more traditionally known Sun-*horse*. The differences, if the theme was selectively imported, may indicate whether the pictorial theme was just used as a modernisation of old ideas or if new ideas and concepts followed with the transformation of the horse into the deer.

The most evident difference is that the position of the circle-figure in relation to the deer exhibits a greater variation than when compared with the horse. While the Sun-horse always has the symbol placed behind the head or the body the deer can also be seen with the circle placed above the antler/head or in front the front-legs and in some cases below the body. The placement of the circle-symbol – all around the deer figure – may indicate a difference in time. While the mythical Sun-horse carried the sun over the sky only during the day (Kaul 1998), the deer shows that it is connected to the sun and/or perhaps the moon during the 24 hours of the day and night or perhaps more likely to the day and night as a phenomenon of time represented by the different circle-figures.

In Bohuslän, besides the new connection between the circle and the antlers of the stag, there is also an evident connection, in several cases, to the front-legs of the deer. This is probably best illustrated on the panel in Backa (Figure 4.1) where one is given the impression that the doe enters the disc directly with the front legs. While the Sun-horse, in most cases, was a solitary carrier of the sun during the day, there is an interesting and contrasting dualism in the case of the deer. In several examples a stag and a doe are seen in relation to the circle or circles.

A conclusion can be made that the Sun-deer was locally introduced in Bohuslän sometime between 800–500 BC as a more modern alternative to the more traditional and geographically more widely known Sun-horse. The pictorial theme of the Sun-deer contains many references to the older Sun-horse (Figure 4.5) but also carries new information and thoughts that the deer, doe, or deer-couple as a single-species animal are related to the sun's or moon's appearing and disappearing on the canopy of heaven. It is considered, in Scandinavian Bronze Age mythology, that the horse shared the transport of the sun with other mythical animals such as the fish, the bird, the snake and perhaps even the ship (Kaul 1998, 262, Bradley 2006, Kristiansen ch. 6, this volume excludes the fish and the snake as helpers and identify them as antagonists carrying away the sun). Could it be that the significance of the sun and/or moon has changed to a symbolic representation of 'time' in itself? a suggestion that may explain the abundant variation of positioning the circular figures in relation to the deer.

In Galicia, as opposed to Bohuslän and Valcamonica (where also other animals such as the horse, bird, fish, snake and deer are seen in connection with the circular symbols), the dominant animal on the panels related to circle-figures is the deer. There are only three examples of Sun-horses, which are all made in local style, but their small number and the fact that they are very limited spatially, suggest that they are a special case and possibly related to the investigated mo(ve)ment in time.

Returning to the possible mo(ve)ment in time

After arguing that there are many important similarities *and differences* when comparing the Sun-deer in Galicia and in Bohuslän regarding shape as well as content and societal role, the big question is if any of the similarities and differences and perhaps even the

Sun-deer designs on the panels in Backa and in Barbanza, can be explained by some kind of contact or interaction in prehistory between the two areas? We will probably never find an answer to this question. And what is suggested below is a hypothesis, and not an answer. It is a suggestion of a possibility and a call for a need to investigate this possibility more thoroughly. Some may argue that the type of travelling here suggested was not possible around 800 BC and that people only travelled overland. We have not found any actual ships, similar to the ships on the rocks in Scandinavia (Berntsson 2005), and it is possible to argue that these ships only existed as mental images or symbols for a conception of a ship of death or similar more religious function.

Though, seeing archaeology as a process of investigation of possibilities and suggesting what is most likely based on what we know at the moment instead of a hard-fact science providing and forming definitive results based on indisputable proofs, I believe that the archaeological source material and our knowledge of the past will increase with future research. Already, only with a few centuries of applied archaeology, one can see that a common mistake made is thinking of prehistory as primitive and as a straight evolutionary line.

A well-known fact is that southern Scandinavia, during this period, was dependent on the import of metals (mainly tin, copper and gold) in order to produce the high amount of demanded bronze- and gold objects such as weapons, jewellery, toiletries and ritual paraphernalia that have been found in the area. The objects, made of precious and shiny metals, were probably used together and sometimes in combination with figurative expressions, which can be connected to cosmological ideas and an oral tradition so as to introduce legitimate and sustain an ideology expressed by an authority (Fredell 2003). These objects were produced locally and within a local tradition but the raw-materials, to a greater part, had to be imported. There is a possibility that local copper and tin resources were used, but unfortunately for now, the research about this is almost non-existent.

Going for the tin...

Today, Galicia and the northern parts of Asturias together with Cornwall/Devon and Brittany are known as the areas along the Atlantic coast with the most abundant natural resources of tin and copper (Obermaier 1925, 58, O'Brien 1994, 2, Comendador Rey 1998, 162–7, Ruiz-Gálvez Priego 1998, 107–9, Nash Briggs 2003, 245). For Galicia this is especially true in relation to tin and gold but there are also several known old (but not dated) copper mines (Comendador Rey 1998, 159).

The question whether these resources were used locally in Galicia already during the Bronze Age is naturally hard to answer from an archaeological point of view, especially when concerning the prehistoric extraction of tin of which we know almost nothing (Budd *et al.* 1994). As for the copper, there is a mine, El Aramo, in Asturias which has yielded dates from the Early Bronze Age (O'Brien 1994, 1).

As a result of experimental archaeology (Earl and Özbal 1996) it has been proven

that the extraction of tin leaves almost no residue. It is also known that geologically-speaking, tin can be associated with the presence of gold-ore or as ore in granites or quartz and that the extraction of tin and gold are similar. Furthermore, cassiterite (the raw material of tin) can be found besides as ore, as pieces in rivers and ocean beds where, like gold, it can be extracted through washing (Earl and Özbal 1996). The fact that tin is needed in very small amounts to make bronze makes it a highly valuable material well worth extracting. To extract tin, all you have to do is to crush the raw-material and heat it up to make it fluid (the melting point for tin is 232°C) and possible to separate in drop-shapes. For this, all you need is a simple fire-pit and some kind of crucible.

In Europe, the production of bronze was an on-going experimentation and the alloy first reached the perfected composition – with 8–10 per cent of tin – in the middle or closer to the final phases of the Bronze Age. Actually, some of the earliest metal objects from the Bronze Age are really made of copper with a high percentage of arsenic and silver, which make them both look like and – in terms of characteristics – act like real bronzes. The advantage of bronze over copper is that the lower melting-point of tin then makes the bronze easier to shape when heated. The alloy of copper and tin also become harder and more resistant to corrosion than the copper. It is when tin is used in an alloy with (mainly) copper that we first get real bronze objects. Along the Atlantic coast, this takes place around 1900–1600 BC (Comendador Rey 1998, 15). The technique to extract tin more effectively was developed, according to Comendador Rey (1998, 15, 161), around 1100–700 BC, when furthermore, according to the known archaeological material, it is possible to see an evident increase in the society of production and circulation of metals in general (Comendador Rey 1998, 179, Salvà *et al.* 2002).

Cuneiform writing, originating from what today is the Middle East, informs us that the access to tin dramatically increased during the later part of our Bronze Age. From being up to more than 300 times more valuable than copper the value becomes about the same around 1500 BC (Trolle Larsen 2002). This could be related to the discovery of new rich findings or to an important development or increased accessibility of the extraction techniques.

A territory in Galicia that exhibits a concentration of bronzes with an experimental (too high) content of tin (between 12–42 percent), is the province of Pontevedra and the south-western part of A Coruña (Figure 4.6). The retrieved objects are an axe, a dagger, some awls, pins and a sword (Comendador Rey 1998, map 6, cat. no. 21, 85, 96a–b, 139a–b). Another sword was found in the river Ulla and a pin from Costa de Seixeira. The area of the findings corresponds to the area where the Sun-deer are found. The variation in objects and the high percentage of tin in the objects (if not a result of the methodology used in the analyses) may indicate that tin was extracted locally and in abundance. Close to the Sun-deer compositions on Monte Gurita in Barbanza (17 km and only 2 km from the sea) is an old tin and wolfram mine (As Minas de San

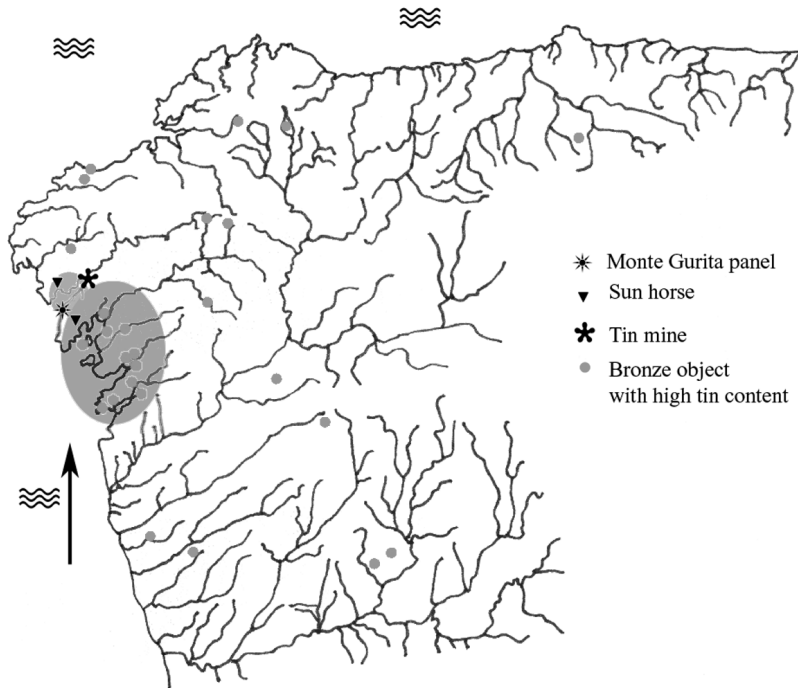


Figure 4.6: The grey transparent ellipses indicate the area “Rías Baixas”. This area, which shows a concentration of bronzes with a high tin content, coincides with the distribution of the Sun-deer figures. The Monte Gurita panel, the few known Sun-horses and the tin mine are all located within the ría of Muros and Noia.

Fins, Lousame) where traces of a more antique extraction have been attributed to the Phoenicians (Comendador Rey 1998, 165). Unfortunately there were no investigations made to answer the question of how old this extraction could be before the mine opened up in the 1890s (Creo in *La Voz de Galicia*, 20 October 2005).

As the amounts of copper, tin, and gold found in Scandinavia during this period to a greater part had to be imported from somewhere it seems logical to turn to the closest places where these metals are found on the continent. This is especially true for Denmark, which completely lacks its own gold deposits but show many finds from this period (Hartmann 1982).

In this hypothetical suggestion of why there are two distant rock-art panels with similar repeated Sun-deer scenes, we will depart from the west coast of Sweden. The pictorial analysis of the Sun-deer motif in Bohuslän has interpreted its background as having been selectively imported from Galicia. Taking this into consideration, I will allow myself to speculate that a ship or expedition of ships was departing from Bohuslän, possibly with the mission of finding new contacts willing to trade tin, perhaps because the old contacts had been interrupted or simply since there was a great opportunity of

making new contacts and bringing home wealth and knowledge. Perhaps there was a rumour among the seafarers saying that new findings and techniques had made possible a place where you could get copper, tin and gold – all at the same place and close to the shore – a place where fjords guided you into the landscape and where natural harbours were abundant and the people friendly. The shoreline of Bohuslän during the Bronze Age was physically similar to the coast of the “Rias Baixas” (Low Estuaries) in Galicia, since the coast of the Scandinavian Peninsula has changed with the elevation of the land since the last ice-age (Ling 2008, Ling ch 3, this volume).

The closest places where copper is known along the Atlantic shores, when travelling by boat from the western coast of Sweden, would be Brittany and Ireland. For tin it is the south-western coast of Great Britain or Galicia. Galicia has the privilege of housing both tin and gold – the most desired metals – close to the shore. From Caldas de Reis a gold find from Bronze Age of more than 28 kg was found in 1940 (Comendador Rey 1998, 72–6, 178). Hartmann (1982) considers this to be locally-extracted (washed) gold. His spectral analyses of prehistoric gold supports the hypothesis that gold was locally extracted in Ireland, in Galicia and northern Portugal, and on the European continent from where it was, to some extent, exported to the Scandinavian area where gold from many areas, and normally with the addition of copper, were fused together. In his analyses he found some gold-objects from Fyn that share a typical Galician gold-profile (Hartmann 1982).

The travelling and transport of heavy goods by ship offer many advantages if compared to the same over land. It is faster, being neither dependent on elaborate and weather-safe road-systems nor on traction animals that must be fed and carriages maintained. Escaping land one can also escape possible human problems such as robbery and tolls. Naturally, with this suggestion, I do *not* exclude that transport over land and to closer locations on the continent took place, for example from the Harz and the alps (Harding 1984) but when departing from Bohuslän this also implies a travel by boat to Denmark or Germany – if not going north through Finland, which seems a bit farfetched. Neither do I suggest that the possible contact between Bohuslän and Galicia was anything permanent. It could have been – and as is here suggested on the basis of the archaeological evidence – a mo(ve)ment in time and nothing more. At all events, I argue that it is a possibility that should (and deserves to) be investigated.

...and coming home with the Sun-deer?

The location of the panel with the complex Sun-deer scenes at Monte Gurita (Barbanza) with some distance from the shore (a few kilometres) but with a spectacular view of the sea, indicates that if travellers visited the panel, they were probably taken there by the locals, since it is not markedly visible from the sea.

The existence of two Sun-horses on the isthmuses on both sides of the fjord of Noia and Muros (Figure 4.6), which is the first fjord of the Rias Baixas when coming from the north, may indicate that if contact existed between people from Bohuslän

and Galicia, it was peaceful and reciprocal. The motif of the Sun-*horse* in the Galician context is rare and most likely foreign, though made in local style. This may indicate that the visitors from Bohuslän (Backa) were not only presented to the myths and stories of the Sun-deer on the Monte Gurita panel but that they were also given the opportunity to share orally their similar myth about the Sun-horse, a story that was appreciated by the locals and documented, in local style, on two important panels in the vicinity – Laxe das Rodas in Muros and Os Mouchos in Rianxo. Also, the fact that some Sun-deer in Bohuslän are depicted with their antlers in shape of the sun may indicate that the visitors from Bohuslän were taken to another panel, Cova da Bruxa in Muros on the other side of the fjord, where this interplay with antler and sun is depicted on two stags.

Back in Bohuslän, besides coming home with traded wealth such as tin and gold, the travellers brought back the alternative to the Sun-horse which was perhaps immortalized on a panel in Backa, remembered from the panel they had seen in Barbanza (Figure 4.1).

The hypothesis that the Sun-*deer* in Bohuslän and the few Sun-*horses* found in Galicia could be the result of some sort of interaction no longer seems entirely impossible. It would answer why the Sun-deer is such a geographically- and chronologically-limited phenomenon in the southern Scandinavian tradition and why there are so few and geographically limited examples of Sun-horses in Galicia. Could it be just fortuitous that all these factors coincide? Independently if the answer is yes, or no, the result of this comparative study was not, as it often has been in archaeology, a question of finding a common origin or even an evolutionary development and dispersion. The material indicates that the existence of the Sun-deer in Bohuslän may be the result of a selective but direct import to modernize a pictorial theme that already existed, and was locally known as the Sun-horse. The theme was in need of an up-date, and perhaps as an unexpected result of crossing the sea while looking for new possible traders of tin along the Atlantic coast, they also found a passable alternative to the Sun-horse.

The introduction of the Sun-deer in Scandinavia remained a local phenomenon limited to Bohuslän without any important geographical impact or diffusion. However, the deer was an animal whose symbolism and mythology were about to become of major significance during the shift to the Iron Age, not as a stand in for the Sun-horse but as an independent symbol of fertility and time, as a transgressor between worlds (human, deer, god), as well as strongly related to royal legitimacy, to power, and to the hunt (Bath 1992).

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Bodily Attributes and Semantic Expressions

Knees in rock art and Indo-European symbolism

Åsa C. Fredell and Marco V. García Quintela

In this article we consider the problems relating to the interpretation of rock engravings, from finding more or less deceptive evidence to the difficulty of making sense of many figures. We propose a dual form of investigation to surpass those difficulties; on the one hand an ordered systematic treatment of the corpus of images that we are trying to explore, on the other hand the consideration of the linguistic and mythological Indo-European registry (valid for populations speaking this family of languages). These approaches are, theoretically, independent, and would be possible to develop independently. Nevertheless, we propose to study whether their joint use reveals their double utility and complementariness. Our study aims to show how the rock art images represent the ambiguity of warriors, between the expression of force and violence (death) to their capacity of fertile reproduction (life).

Introduction

One of the accepted facts shared by academics working with rock art is the difficulty involved in correctly interpreting the images that are represented. Particularly, when we are faced with carvings made by existing populations or those that have a certain degree of cultural continuity with those made in the not-too-distant past, we may have relatively firm interpretative references. However, this is simply not the case with most of Europe's pre- or proto-historic carvings.

For this reason, it is no surprise that arguments arise when attempting to identify precise dates, making efforts to catalogue the materials, or carrying out research to obtain contextual information: what type of society made the carving, if there were individual artists, what activities took place around the carved rocks, or whether the images were realistic or symbolic. All of these factors are added to the work that has to be carried out in treating the carvings as historical heritage.

One common theme shared by these researchers is that the motifs shown hardly require any type of effort in order to be interpreted. This is either because they are

blindingly obvious – a deer is a deer, a sword is a sword and a ship is a ship – or otherwise, because we do not really know what is being shown: a labyrinth, concentric circle, etc.

That said, it is true that some consensus has been reached about the interpretation of some of these motifs. For example, representations of the sun from Bronze Age Scandinavia are supported by unequivocal representations on other supports or objects (Gelling and Davidson 1972, Kaul 1998). In the case of the Iron Age in north-western Spain, we have also been able to identify a sense of continuity between crosses carved within circles with some motifs represented on Roman funerary stelae carved in the local tradition (García and Santos 2003, 119–20).

However, between the carvings that are not interpreted due to their obvious imagery and those not interpreted because we do not know how to do so, there are a large number of carved motifs. In this chapter we will explore a proposal that is not intended to resolve all of these problems, but instead, more simply, to contribute towards limiting the number of motifs we are unable to say anything about. The process involves deliberately using elements shared by the Indo-European linguistic and cultural tradition, as has been progressively established since the end of the eighteenth century (Sergent 1995, 17–64). This calls for some clarification.

Our knowledge of Indo-European traditions has come about through a series of comparisons. At first these were linguistic, based on a scattering of words or word families detected in distant languages based on limited themes (the names of numbers, animals or plants, and terms of parentage), which were gradually extended (to institutions or religions), until finally constructing a symbolic and ideological framework that is the key to explaining linguistic similarities. This final step is basically found in the work of G. Dumézil, who focused on the history of religions. Seen in perspective, the steps towards identifying the Indo-European tradition are understood as the progressive verification of increasingly complex levels of human activity: subsistence conditions, social life and the symbolic universe.

That said, this research is based on the study of words, languages and texts. However, the same people who spoke or wrote also represented pictures (for example rock art) which in many cases were earlier and more widely spread than the texts analysed by academics of the Indo-European world, which respond to the particular logic of the diffusion of writing amongst the speakers of the Indo-European languages (Sergent 2005).

This means that images and texts cannot be related in an arbitrary manner. Any passage from a text in a language from the Indo-European family cannot explain a motif found in any corner of the continent populated by speakers of this family. It is therefore necessary to make concrete the conditions by which it is legitimate to establish relationships between heterogeneous documents, and so we would propose a type of comparison in six stages:

1. HYPOTHESIS – Observation of a relation between shapes in the present.
2. SELECTION OF *SHAPE* AND MATERIALS – Demarcation and identification of

- a shape. Is the shape repeated? Are there sub-shapes? Where does it occur in time and space? Which shapes are essential for the analysis and can some be excluded?
3. SEPARATE ANALYSES OF *CONTENTS* – Breaking down shapes and searching for intentions, meanings and communications. This should be done separately for the two areas to be compared.
 4. SEPARATE ANALYSES OF *CONTEXTS* – How can the results of the contents-analyses be explained from a societal perspective? Start from the shape and move outwards to investigate context and function. What possibilities are there? This should be done separately for the two areas to be compared.
 5. COMPARISON AND TESTING OF POSSIBLE RELATIONS BETWEEN THE LOCAL EXPRESSIONS OF THE SHAPE – Which relations in the contents and contexts of the materials are supported and which are not?
 6. EVALUATION OF HYPOTHESIS – Presentation and argumentation of well-founded results and/or possible reformulation of hypothesis.

These methodological steps also formed the basis for the comparative analysis of the “Sun deer”, which was investigated in an earlier article of this volume. More specifically, we present an example of applying this methodology, in which questions of content and context involve the use of elements of language and culture.

Hypothesis

We base this work on the formal similarity seen between two figures seen in places as distant as Valcamonica (Italy) and Bohuslän (Sweden) as shown below (Figure 5.1):

There are two similarities between the image from Camunna and Åby: on the one hand, there is the particular position of the phallus, half-way down the leg, and on the other, we know that razors like the one carried by the figure from Italy are decorated in the culture of Vilanova with swastikas (Farina 1998), while the image

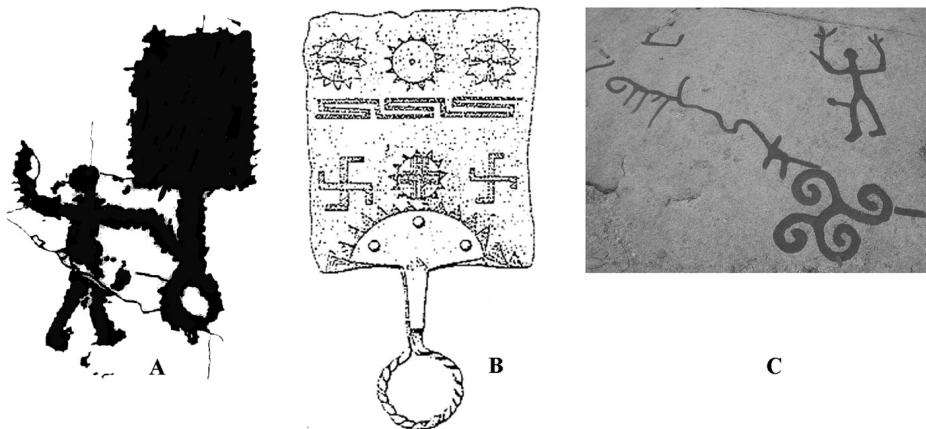


Figure 5.1 A–C: A, The figure to left is part of rock 4 at Dos Sotto Laiolo (Paspardo, Valcamonica, Italy), photo by Fossati. B, Villanovan “paletta” or razor. C, Panel from Åby (Sotenäset, Bohuslän, Sweden).

from Åby is related to a shape similar to a swastika. Focusing on the first detail, is this due to a mistake made during its creation, or just chance, should we attach importance to a detail that does not have it, or on the contrary, is it the result of a precise intention by the sculptor? We will concentrate our attention on a more precise region.

Bohuslän is the area in Scandinavia with the highest variation of different rock art figures and where representations of human figures are most abundant. Though cut in granite, the figures express many different details, attributes and gestures that were surely of importance for the identification, interpretation and significance of the human figures and their displayed activities. Considering our detail of investigation – “the phallic knee” – it is necessary, in order to exclude faults in documentation, to make a survey of the phenomenon which will confirm if the expression is intentional, repeated and if there are variations within the expression. Revising the published documentations of rock art panels in the sub-regions of Tanum, Kville, Svenneby, Bottna, Askum (Fredsjö *et al.* 1971, 1975, 1981, Milstreu and Prøhl 1996, 1999, Högberg 1995, Bengtsson *et al.* 1997, 1998, 2002, Bengtsson and Högberg 2000, Fredell 2003, appendix) and some examples from Backa, Sotenäs and Skee (personal visits) we can summarise that the phallic knee and some possible variations of it are present on some 27 panels, scattered in the area and including 35 human figures, *i.e.* the phenomenon is not very common but it is too frequent and outspread not to be considered intentional. The existence of possible sub-groups strengthens the hypothesis of a symbolic-semantic function. The expression is most common in Kville hundred, which present 13 of 35 human figures, followed by Tanum with nine representations. We can conclude that the existence of phallic knees in rock carvings in Bohuslän is not a fault in documentation, and it is more likely that there could be more as this type of expression could have been excluded in documentation since it lacks any significance for us today and it is possible that a small detail like this, in some cases, may be confused with damage or a natural groove on the panel and therefore dismissed.

This leads us to choosing a methodological option that is not ‘innocent’. If we accept that we are only able to explain similarity using things that are similar, and that the element used as an explanation must be as close as possible to the thing explained, then all we are left with is a statistical exploration of the rock carvings, in the hope that it provides an answer in itself. If, on the contrary, we set our sights on other horizons, the question is instead which should we consider as legitimate, which we should reject, and why.

For the sake of brevity, we can affirm that both options are based on firm foundations. The first is based on methodological caution, and the hope of making new findings, and would be the option preferred by most archaeologists. The second is based on an option that seeks answers, accepting the risk of making errors along the way. Finding ourselves using this option, we propose the hypothesis that we are faced with deliberate representations of symbolic forms articulated around the knee, within the framework of

reflections on the symbolism of different parts of human anatomy. In order to support this hypothesis, we will progress in line with the method proposed.

Selection of shape and materials

Besides the phallic knee, which is our object of investigation, we found four other sub-groups related directly or, as in one group, indirectly to the knee, that deserve to be considered in this investigation since many factors indicate that these five groups of expressions are related in context (fertility or warrior) and chronology (approx. 700–500 BC).

The “phallic knee” is the group that is most widespread geographically. It is found in relation to nine human figures (Figures 5.2 A and E). A variant of this may be the representation of a snake biting or appearing out of the knee (Figure 5.2 B). This is the group less presented, only on two panels in our investigated area. The group with the highest number of representations (13) is where the knees and/or hips/thighs and/or ankles of the human figure are depicted as bound (Figures 5.2 C, E, G). A variant of this may be what here is called “ship bound” (Figures 5.2 D, G). The composition is made up of a larger human figure, or just its lower body, placed over a ship-figure. The lines composing the hull of the ship-figure are either related directly to the hips/thighs and knees of the figure or to the knees and ankles of the figure. In one case – the famous “spear-god” from Litsleby – the human figure is a giant (more than 2 metres in height) and the presumably older ship is seen behind the knees, as binding them together. The positioning of human figures over ships in Bohuslän always follows this schema (the ship hull is never placed behind the upper body or the head of the human figure) and most likely it should therefore be considered as an intentional incorporation. Also it is interesting in this case to note how the position of the ship behind the human figure plays with the transformation of the ship’s stems as, while binding the lower body with its hull, it simultaneously creates a phallus and a sword (Figure 5.2 D), two attributes that are the most common (13 and 19 cases) in relation to human figures with knee-related expressions. The last sub-group is the “indirect” group that is only found in three cases (Figure 5.2 F). In two cases the knee is clearly marked by a cup-

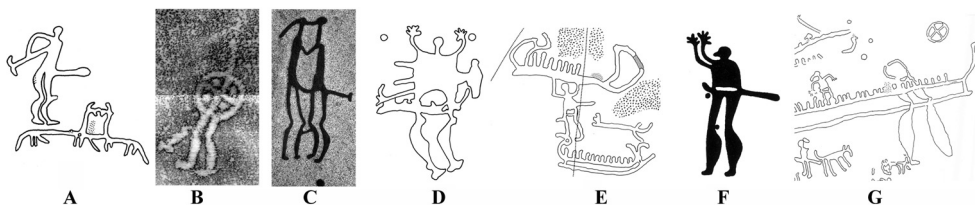


Figure 5.2 A–G: Some examples of knee-related expressions in Bohuslän. A, Kville (Värnikshede), B, Tanum (Aspeberget), C, Tanum (Vitlycke), D, Kville (Torsbo), E, Kville (Yllene) F, Tanum (488) and G, Bottna (Valeby). The figures are a montage of different scales and types of documentation (tracings, rubbing and photo).

mark, a common practice used to emphasise different body-parts (phallus, foot, arm, shoulder, groin, head and knee) in Bohuslän, and in the third case the knees are seen over-emphasised. Tanum is the only parish that exhibits all five sub-groups. The other parishes (except Askum) all exhibit the three more common groups.

It is impossible not to acknowledge the similarities between these 35 investigated human figures. Even though they are spread out in different regions within Bohuslän they show a coherency in shape and attributes as well as in displayed gestures and contexts. A chronologically datable detail which some of the investigated figures display is the sword with a winged cape (Figures 5.2 A, 5.4 A). This is dated by Montelius (1917) to the last period of the Scandinavian Bronze Age, *i.e.* 700–500 BC. This type of sword-cape is often related to a gesture where the human figure's hand is placed on the sword hanging from the waist. This gesture is also seen in relation to many of our investigated figures. Other details or attributes, commonly dated to the final periods of the Bronze Age are helmets (horned or with cap), rounded shields, belts and three- or five-fingered upraised hands. The practice of making giant figures is also considered to belong to the same time-phase. Some direct relations to other figures such as a swastika (Figures 5.1 A-C), horses with elongated bodies and short legs (Figure 5.2 A) and a sun-deer (Figure 5.4 A and Fredell Ch. 4, this volume) confirm the suggested chronology further.

However, it is also important not to lose sight of the symbolic associations knees have in other cultures, as these shed light on issues which may become blurry if we focus purely on one area. For this reason, we will consider two images, iconic in nature, that are of interest to us in their modified form: representations of humans, with snakes coming out of their knees.

The description of Figure 5.3 A comes from a specialist:

In the centre, a quadriga and charioteer are represented full front, with the horses and chariot wheels drastically foreshortened. The charioteer wears a red petasos and a long red chiton (instead of the more usual white). The two pole horses turn to face one another, while the trace horses look away to left and right, the usual arrangement in such a composition. Above the horses are two birds, probably eagles, flying to left and right with red-striped wings. On either side of the quadriga are pairs of dueling hoplites, each of whom wears a cuirass, red greaves, and a red Corinthian helmet (three with low crests, one with a silted crest). ... In the group at right, a spearman attacks to the left, his left foot raised to trample his enemy, who has fallen to one knee. The apparent loser carries a Theban shield, the victor a round shield with a large serpent device in the round. ... Despite the formality of the design, we should imagine the chariot in the midst of a *mêlée*. This being so, the fight must be a legendary one, as chariots are, were not used in contemporary combat... (Padgett in Perseus Digital Library, Harvard 1925.30.125.).

There exist variations of the motif, (see Chase 1902, entries n° xxxiv, cxx, cxxi, ccxxvi, of the catalogue with seven cases in all) and other cases in more recent literature.

We offer the description of E. Thevenot (1955, 27) on Figure 5.3 C:

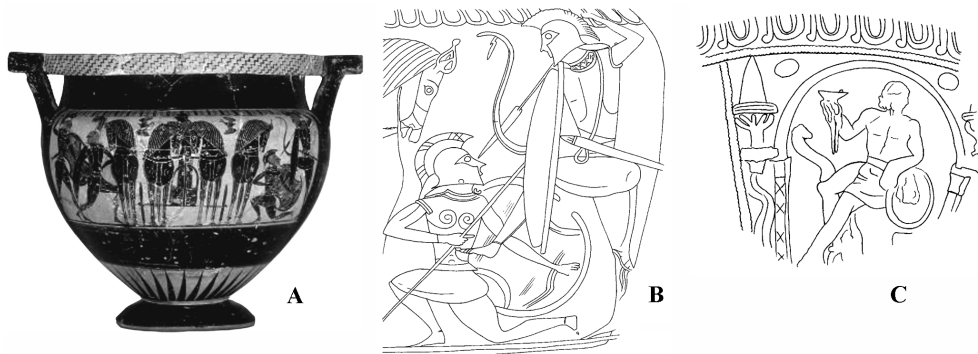


Figure 5.3 A–C: A, right hand side of face A of a vessel attributed to Lydos, around 560–550 BC. B, detail from the extreme right of the previous image. C, fragment of Gallic terra sigillata, from Vichy (Allier, France).

Here we see a naked, strongly muscled warrior, in a close to seated posture. He wears a rounded helmet, and rests his left arm on an oval shield. In his right hand he lifts a cup running over with boiling water. Facing him, resting over the right knee of the character, is a horned snake, rising in the direction of the cup. Dr. Morlet, who discovered the piece, has no doubt that this fragment is the potter's attempt to recreate the lost statue of Mars Vorocius. This is possible. What is sure, in any case, is that it is identified with a god. The helmet and shield are typical of Mars, who is often represented naked. The seated position is exceptional, although not impossible. It may have been chosen to make the god of the season appear more majestic.

As regards these painted ceramics, we have a richer context than that of rock art carvings, which leads us on to the third stage of our analysis.

Separate analysis of contents

Lacking clear points of reference to interpret the rock art images, we will leave them for a moment to focus on pottery. Why did two different cultures from different times, the Ancient Greeks and Romanised Gaul, choose to use a similar motif: a warrior with a snake rising out of his knee?

Before continuing, it is important to note that this is an equivocal similarity. On one hand, the warlike attributes of the Gallic Mars are clear, although the figure is not in an aggressive posture. On the other, in the Hellenic figure the snake rises out of the shield, although the position of the knee coincides with the point from where the snake is rising. However, both images require explanations inspired by the thoughts of M. Mauss on the “*techniques du corps*” (Mauss 1950). We will continue with the Greek cup.

The posture of the warrior over his adversary, despite appearing natural is contrary to the usual posture for Greek warriors. Warriors facing decisive action are described as firmly planted on both legs from the *Iliad* (12.458) to the archaic poetry of the

Aegean (Arquilocus fr. 60 D) or Spartan world (Tirteus fr. 6–7 D, 11, fr. 8 D, 21–22 and in verse 31, the position of warriors stood in line is described according to their feet). In the classic period, Thucydides (V, 73) emphasises how static the Spartan battle formation was, making it an anecdote on how it emphasised the value of the lame in combat (Plut., *Mor.*, 211 C and 234 E). In a mythological context, Euripides (*Heracles* 162–4) played with the idea of the position of the feet to define the warrior, at the same time as presenting madness as a wild dance (*Heracles* 836–7, 878–9, 892–5, 1085). This idea had already appeared in the *Iliad*, as considering the enemy as a dancer was an insult (*Il.*, XVI, 617–8) a jibe levelled at survivors, (*Il.*, XXIV, 261) and cowards were characterised by wobbling on their feet (*Il.*, XIII, 281), in the same way as dancers.

We may therefore argue that the Hoplite shown on our cup is shown as having been struck down by a *hybris* unbecoming of a good warrior. The snake represents this mood. In fact, the head of the Medusa, surrounded by snakes, is frequently seen on Greek shields, starting with that of the goddess Atheneia. On the cup, one of the snakes around the Medusa's head appears from the image on the shield, doubling the effect of the spear to finish off the vanquished enemy. However, the Medusa is often frequently found on supports such as cnemides, precisely at knee height, *porpaka*, or shield supports at elbow height (Kunze 1950, 65–72), and regularly on the fronts of archaic temples (Lapalus 1947, 74–105). W. Deonna (1939) explained how the common denominator in these situations was the angular shape (in Greek, *góny* means angle, joint, elbow) that was susceptible to magic attacks that the Medusa would shrug off. In this case, on our cup we see how the snake appears magically, from an image, and naturally, as it appears from the place it frequents the shield. But it also appears from the elbow and the knee, if we consider the warrior's posture. If we also consider the easy association between snake and phallus (*e.g.* Sterckx 2005, 135–9), we see a similar symbolic concept in the Greek image to that seen in the rock carvings that interest us, emphasising the aggressive aspect that may be represented by the erect snake-phallus.

Moving on to another example from Gaul, amongst the motifs represented on other fragments from the same pottery, we find a horned snake surrounding a triangular figure, perhaps a breastplate, or appearing out of a warrior's knee (Morlet 1958). And so, the places where ancient Greek snakes appear now reappear here in the context of Romanised Gallic traditions.

The symbolism of the snake in Gallic and Celtic culture is more complex. Apart from the description by Thevenot, we should explore the analysis offered by C. Sterckx. According to this author, the Celts associated snakes with the phallus and male creative power, as may be seen in the phallic appearance of the divine serpent of Celtic and Romano-Celtic iconography, and its well-documented ram's head (Sterckx 2005, 137–9). Beyond this immediate iconic value, the snake personifies a complex social and physiological symbolism, as it represents the soul, based in the brain and the spine,

and which is ‘ejaculated’ in order to achieve procreation at cosmic and theological level, or in terms of social practice. These concepts are the ideological basis for the Celtic custom of cutting off their enemies’ heads, as they were the receptacle that held their souls, as explained throughout Sterckx’s book (2005).

And so, the images found on pottery lead us to two different symbolic universes. One of the Greeks, oriented towards the expression of an unbridled violence, within a well-defined code of morals and gestures, and another of the Gallic-Roman world, oriented towards a manifestation of fecundity and creative power, also related to war but in a less direct manner, with the purpose of combat lying in eliminating the reproductive and vital capacity of the enemy.

So are these observations relevant in order to interpret the phallic-knees in Bohuslän? It is quite clear that the rock pictures of Bohuslän were made with intentions and with the purpose of communicating meaning; without contemporary literate sources to complement the pictures, however, we are apt to interpret their meaning more or less directly. Bearing in mind the declaration by Peabody (1975, 1) that ‘despite the implications of its name, literature does not seem to have been the invention of literate people’, we can assume that pictures, as a means of communication, could have been used to communicate the same things that the written texts later came to recite, namely the speech. It is therefore logical to search for structures within the pictures that reside within language and its different forms of communicative expressions (Fredell 2004). We can do this while studying groups and sub-groups within intentional expressions and their compositions, scenes or other forms of divisions or additions that create similar and different contexts for the studied figures. This will provide us with a stable and testable ground for our interpretations.

The hypothesis that the “phallic knee” is an expression of the double-sidedness of male virility/fertility and aggressiveness seems to be highly applicable on the investigated figures of Bohuslän. All figures of the different sub-groups can be related either to a fertility-scene or composition (Figures 5.2 A, C, F, G) or to a warrior (Figures 5.2 B, D, E), and in some cases simultaneously to both. There is for example a scene where a phallic warrior with sword, shield and helmet has his knees put together (Figure 5.4 A). His phallus is connected to the antler of a deer. The antler of the deer is known to have been a symbol for fertility since every year the stag loses its antlers, which rapidly grow back within three months.

Regarding either fertility or warrior symbolism, we find that 19 figures of our Scandinavian sample are warriors and that 16 are related to fertility-scenes (of which 5 are also sword-bearing warriors). The warrior-contexts are most common in Kville. Of the five sub-groups, the only one dedicated exclusively to warrior contexts is the human figures with a snake-figure biting or appearing out of the knee. The warrior, when presented in a context with (an)other warrior or warriors, is always presented as a warrior within a group. These warriors are never seen confronting each other. They are always seen facing the same direction (Figure 5.4 B). The “phallic knee”-group

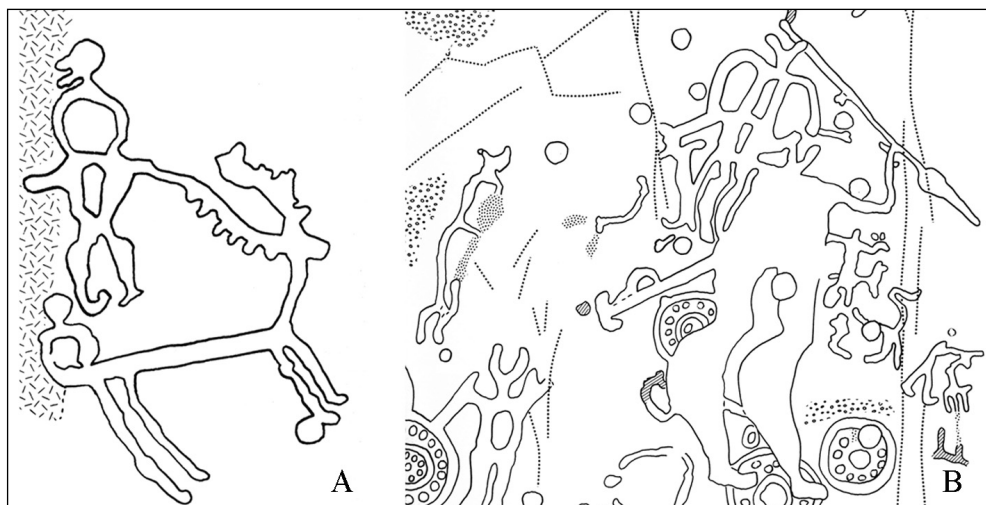


Figure 5.4: To the left is probably a combined warrior-fertility composition from Kville (Södra Ödsmål) and to the right is a group of warriors from Kville (Hede), where three of the warriors with horned helmets have their lower bodies bounded. The figure is a montage in different scales.

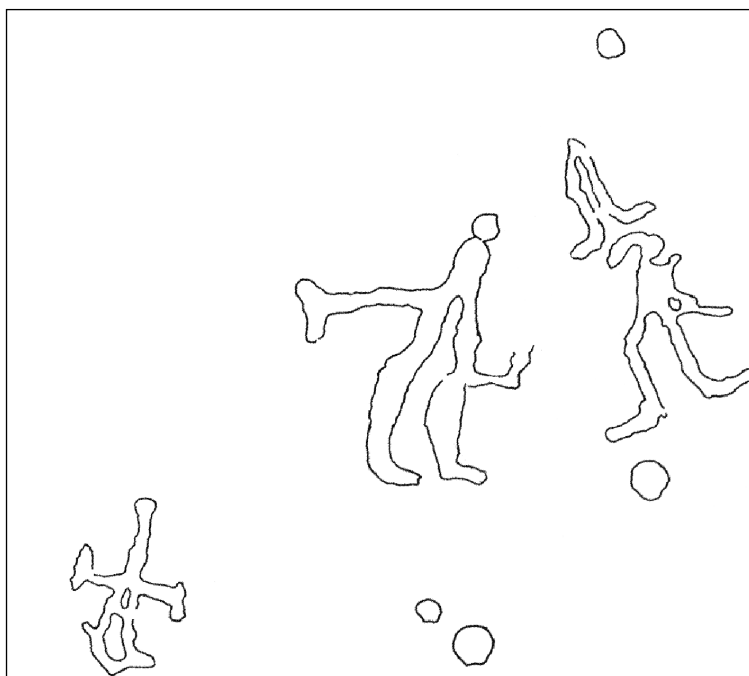


Figure 5.5: Rock carving from Bottna (Gisselgårde) representing a synoptic scene where different events in a story are presented simultaneously in one composition. This type of composed scene is often used in pictorial expressions, for example on the Greek vases (Snodgrass 1998), and in rock art (Fredell 2004, 140–4).

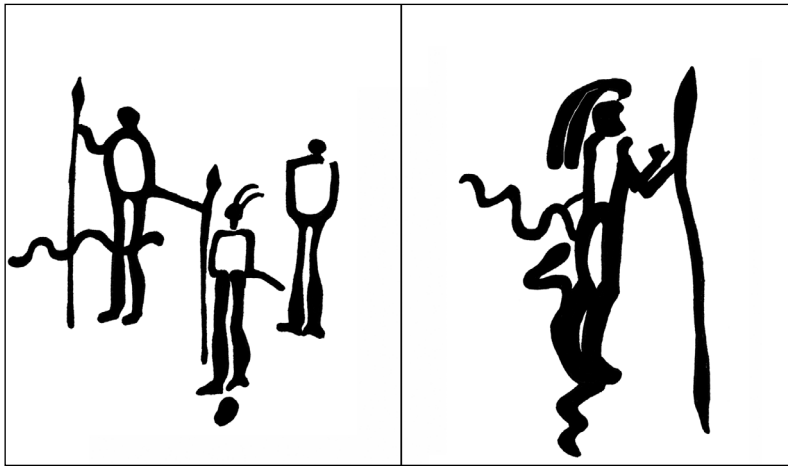


Figure 5.6: Two examples of warriors with snakes in direct relation to their knees, both panels are from Tisselskog, in Dalsland, Sweden (outside our investigation area).

shows an over-representation in favour of fertility scenes while the “ship-bound” is most represented in the warrior context. An interesting detail, in the fertility related compositions or scenes, is the presence of women-figures in seven out of 16 examples (Figures 5.2 C, 5.2 G, 5.5). Women are rarely depicted on panels, but within this context they seem to be quite common. Another interesting observation, amongst the fertility scenes, is that in some cases only the lower body is depicted – as if the upper body, the arms and the head were superfluous (Figure 5.2 G). This type of depiction is limited to fertility compositions. This reminds us of the Irish story of “Lugaid three stripes” and its Indo-European background, where the three functions are situated within the body: sovereignty in the head, force in the arms and the upper body, and fertility in the lower body, where logically also the reproduction organs are located (Dumézil 1986, 351–3, also Dumézil 1983, 228–38 in relation to Camunian iconography). The “bound” figures all depict the bound on the lower part of the body and they are placed where it is possible to bend the body (the waist, the knees or the ankles). In one case the binding of knees can be seen between two human figures – a woman and a man (Figure 5.2 C). In all cases, where the expression is limited to one knee (not bound), it is the knee placed in front the other knee that has the alteration (phallus, snake, or cup-mark). This could be considered as an intentional choice of the most active and forward-going knee.

Separate analysis of context

One of the main features of the writings of E. Durkheim was his ability to inspire academics who were not sociologists to include sociology in their work. Comparative linguistics, in the hands of A. Meillet (1866–1936) offered a privileged example. Meillet

and his followers understood that words did not work as simple phonetic ‘operators’, and that it was of interest to identify the social practices, institutions and precise gestures that determined their original meaning, and therefore “material” significance in many cases. Following this methodology, these researchers produced studies that are relevant in our case.

The first was the work of the Celtic scholar J. Loth, who indicated (Loth 1923) that in Irish Gaelic *glún* means “knee” and “generation” and that the expression *glún ar ghlún* is translated as “from generation to generation”. Also, the verb *glúinghim*, derived from *glún*, means “engender”, “descended from”, from the ancient Celtic *glunos*. He suggests that this is a case of homonymy, as *glún* “knee” is different from *glún* “generation”, as in Latin *genus* and *genu* have a different meaning, as in other languages.

A. Meillet (1926) returned to the theme in a study with an interesting sociological explanation of the Latin *genuinus*, “authentic”, as “that which is received on the knees”, referring to an ancient rite of recognition of a son, based on the belief that the knees are the seat of all strength. Other Latin terms such as *genus*, *progenie*, *gigno-genus*, fit within this semantic field (as indicated by Grimm 1862, 3.866).

E. Benveniste and M. Cahen extended the linguistic correspondence of this concept with other Indo-European languages. The former (Benveniste 1927) indicated that in Sogdian, a language of the Iranian family, knee is pronounced as *z’nwk-* and son as *z’tk*, although in written texts the expression *z’nwk’ z’tk* means “son of the knee”, a form he relates to the ancient Irish *glún-daltae* “infant of the knee” and the Anglo-Saxon expression *cnéo-maeg* – constructed from *cnéo* “knee” – meaning a direct relative. The fundamental institution is presented in the *Odyssey* (19.399–404): “Now Autolycus, on coming once to the rich land of Ithaca, had found his daughter’s son a babe new-born, and when he was finishing his supper, Eurycleia laid the child upon his knees (*epi goúnasi*) and spoke, and addressed him: ‘Autolycus, find now thyself a name to give to thy child’s own child; be sure he has long been prayed for’ (cf. *Il.*, 9.455). In turn, M. Cahen (1927) explained the formula of the ancient Norse *setja i kné* which indicates the action of placing a child on your knees, as seen in the passage from Homer quoted above, and which was the origin of the composite verb *knésetja* “to adopt” and the noun *knésetningr* “adopted son”. He also indicates that the nurturing father takes possession of the baby entrusted to them, and that it is a rite on the verge of extinction.

At a later date, R. B. Onians (1951, 175–80 etc.) developed the Hellenic aspect by confirming that knees were considered as the seat of virile strength in its aggressive form (*Il.*, 5.176, 17.569), or connected with fecundity, procreation or social recognition, as in the texts mentioned above. Here we may add for clarity’s sake a passage from Euripides (*Electra*, 1208–1215) where *gónima mélea* are the “generative members”. A mythological sense is added to the socio-linguistic backdrop.

A myth from Athens and another from Teuthys in Arcadia emphasise the creational power of Atheneia’s thigh. One of the versions of the birth of Erychthonius tells how Hephaestus wanted to seduce Atheneia; she resisted, but the now excited god ejaculated

on her thigh. Athenea soaked up the god's semen with a cloth which she then wrung out over the earth, leading to the birth of Eryctonius, who she then took care of, and from whom the Athenians received the name of the goddess (Loraux 1981, 28–9, 57–60). In Arcadia, Teuthys, tired of waiting to board ship in Aulis to fight against Troy, began his journey home; Athenea then attempted to make him change his route, and Teuthys, annoyed, struck the goddess on the thigh with his spear. The goddess later appeared to him in dreams with her thigh in bandages. Arcadia then suffered a terrible famine, until an image of the goddess was erected with her thigh in bandages (Pausanias 8.28.5–6).

Both myths indicate the thigh of the goddess as the seat of fecundity: directly in Athens, where the muscle is a type of ephemeral yet fecund womb, indirectly in Arcadia, where damage to the thigh caused a correlative sterility in the land of Arcadia.

In turn, C. Sterckx (1997) has brought together equivalent versions of these tales in Mediaeval Celtic literature and Arthurian literature, where there are several tales of kings who were injured in their knees or thighs, making it clear that in each case the injury represented a type of castration leading to the sterility of the kingdom.

These myths also seem to indicate something else: the relation between the leg, foot and knee of certain figures with the landscape. Kings who had been incorrectly seated on the throne, Athenea injured in her thigh, led to the sterility of their domains. However, the legitimate Celtic kings guaranteed the fecundity of their kingdoms. This theme, with its Indo-European roots (Campanile 1981, 27–52; Sauzeau, unpublished) is represented in Greece in the government of the just king according to Hesiod (*Works and Days* 225–38), in a similar way to the virgin Athenea receiving the help of the earth as a womb for Eryctonius.

Some of these myths call our attention to the contents of a rock carving (Figure 5.5). Our interpretation is following: *A man with a winged caped sword (Hephaestus?) is directed towards a woman with the characteristic pony tail. The man has a phallic knee from which another irregular line is connected. The woman is occupied with something elongated (a spear?) penetrating her thigh - or is she wringing out a cloth used to wipe the semen of her thigh? The lower body above the woman could be an attribute emphasising fertility. The position of the woman's feet (and the feet of the attribute) is representing the known, and in rock art used, gesture of giving birth (open, separated legs seen from the front).* We are conscious that this Athenian myth is closely linked to the 'polis' ideology and that the relationship between the Swedish carving with that myth certainly implies the existence of earlier oral versions of the 'mytheme' without polis implications: a matter open to new research.

Shifting now exclusively to our rock carvings, we see that the contexts and function of the knee related expressions in the rock art of Bohuslän indicate that they are being used as symbolic attributes for the two sides of male virility to strengthen and clarify the meaning of a scene or composition. Perhaps the same can be said about the carvings from Camunia? In our example (Figure 5.1 A), the "paletta" has been interpreted as

a semantic device to stress the image of the victorious warrior (Simoes de Abreu *et al.* 1988, 18). The question open for investigation is if there also are knee-related expressions related to fertility contexts in Camunia?

The structure of the phenomenon investigated in Bohuslän is highly semantic with different sub-groups and a certain contingency depending on the relation to in space or proximity closely related figures, and possibly the phenomenon is also being used in synoptic scenes rendering orally transmitted stories (Figure 5.5).

Comparison and testing of possible relations between the local expressions of the shape

We should not forget how difficult the images we are attempting to interpret are. How legitimate is it for us to suggest that one development or another in relation to the images on pottery included in the discussion, or in relation to the linguistic or mythological concepts presented, refer to the rock carvings found in Bohuslän and Valcamonica? The answer is that it is impossible to say, although we should not consider the whole argument void only for this reason.

A more positive response is possible, on the condition of accepting a less rigid question: that we recognise that it is impossible to offer a specific explanation of the images, but likewise that it is legitimate to suggest that they are a variation of a sequence of images and ideas based on the symbolism of the human anatomy, particularly the phallus and the knee.

If we accept this, then we have taken a major step forward, as we have eliminated the possibility of considering these images as the result of a mistake or pure chance. On the contrary, they are representations that were sought out by artists who were immersed in a complex ideological framework, some of whose component we have been able to establish in our discussion.

We have already concluded that the double-sidedness of male virility – fertility and the aggressiveness of the warrior – clearly is echoed within the figures with knee-related expressions in Bohuslän, and that these sides are not (as in the Greek and Celtic-Gallic examples) necessarily separated. It is therefore possible to say that the idea of male potency residing within the knee was a known and expressed fact in the rock carvings of Bohuslän.

Other facts; that the knee-related expressions are not too common and that they seem to be relatively limited in time, lead us to believe that this phenomena was a selected and locally adjusted addition to the more traditional elements and attributes already used, within the rock art, to express these type of characteristics. What is also interesting, when comparing the similar expressions in material from Greece, Valcamonica, Celtic Gaul and Scandinavia, are that some possibly come from the same period, supported by the relative chronology of the rock pictures.

Also, some interesting differences do exist. One is the case with the snake directly related to a warrior's knee. It is true that all figures within this sub-group in Bohuslän

are warriors, but there are only two examples, and in both the body of the snake is located below the knee and not in front/above as in the Greek or Celtic-Gallic examples. Also, a serpent-like form was argued as part of the carvings of Dos Sotto Laiolo rock 4 (Simões de Abreu *et al.* 1988, 13). The snake seems, in the examples from Bohuslän, to be hanging on to the knee and not appearing with force from within it (Figure 5.2 B). Also, in the material from Bohuslän, the warrior is never confronted or depicted in battle, with another warrior. They are always seen alone or in a group of two or more warriors belonging to the same group.

It is obvious that the local adjustments of the phenomenon were very important. In Bohuslän we find five variants, supposedly of the same expression, which are being used in varied contexts, even though all these contexts, in general, can be related either to fertility and/or to male warriors or male strength. There is also one single example of a “bound” woman (Figure 5.2 G). Perhaps it comes as no surprise that what are bound, on the woman’s lower body, are not her knees but her thighs. The binding of the angles (hips/thighs, knees, ankles) of the lower body with a uniting line or the hull(s) of ship(s) seems to be a Scandinavian phenomenon which we have observed in other rock art centres such as in Trøndelag, Norway (Mandt and Lødøen 2005, 104–6). The only case, in Bohuslän, where a line is used to connect the knees of two different human beings is in the famous couple on the Vitlycke-panel. This couple is united by their heads, their arms, the phallus of the man, and interestingly – by a line connecting the knees (Figure 5.2 C). If we apply an Indo-European terminology, a perfect union would be supported by the three functions, which in bodily terms would mean; the head, the arms (upper body) and the lower body. The case with the line between their knees is unique. Other examples of couples, depicted on the rocks of Bohuslän, are often only united by the phallus of the man and perhaps by the arms. It is as if the line between the knees was an extra, superfluous, but important attribute – as if they learned a new word to say the same thing and added it to demonstrate their literacy.

Evaluation of the hypothesis

The map of our graphic record does not coincide with the map of our verbal record. We lack any Roman or Indo-Iranian images that would be important for the verbal manifestations of the relationship between the knee and fecundity (Sauzeau, unpublished). The ‘Celtic’ images are only so at the expense of the recognition of this culture by Alpine carvers and the native traditions of the potter Cinnamus from Vichy, areas that are indirectly related to the Irish testimonies. In Scandinavia we have a whole group of images and examples of the verbal use of the expression “son of the knee”, with these images representing both the aggressive sense and sense of fecundity underlined by the linguistic offering. In Greece we also have the full sequence, both aggressive and in relation to fecundity, in graphic, linguistic or mythical format.

However, the difficulties of a record presented before us like the disorganized pieces of a jigsaw puzzle may be partly overcome, at least, if we consider the pertinence of the

Indo-European horizon, and the different iconographic, socio-linguistic or mythical sequences, together with other possible variations or expressions a very generalised concept about the physiological and symbolic value of the knee, within the framework of a complex evaluation of the symbolism of the human body and its parts. Yet it is not so much the idea of the knee and the human body we wish to emphasise, but instead, in closing, an explanation of the method involved.

This may be formulated as follows. The common features found in different branches of the Indo-European linguistic and cultural family form anthropology (amongst other shared elements). We know them particularly from their appearance in texts, although the hypothesis allowing us to see how they work is legitimate in other regards, such as images or other elements of material culture. In this article we have discussed one case, but others are possible. The conclusion is that by knowing the method has its limits, it is possible to look for the similarity between a graphic code and a linguistic, textual or symbolic code within the Indo-European world, in two different circumstances. One, so usual that we almost do not need to mention it, occurs when images and oral traditions are credited to the same cultural family, even when the testimonies are distant in space and time. The other, whose suitability we have argued in these pages, occurs when our testimonies are spread out amongst several of the Indo-European families or regions: in this case, we propose safeguarding the theory by ensuring that each code, whether figurative or 'literary', is present in at least two cultural families, as otherwise we may fall victim to making arbitrary interpretations.

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Rock Art and Religion

The sun journey in Indo-European mythology and Bronze Age rock art

Kristian Kristiansen

In this article I carry out an analysis of the sun journey in Bronze Age rock art in south Scandinavia. The story is based upon a widely shared Indo-European myth about the sun maiden and her twin brothers and helpers, the Divine or Heavenly Twins, who in disguise of ships and horses come to her help so that the sun can rise in the morning. This myth can be illustrated by combining Bronze Age iconography, bronze figurines, burials, hoards, and rock art (Kristiansen and Larsson 2005, fig. 139). Here I wish to explore if scenes referring to the sun journey can be identified in rock art alone. I apply the method of identifying singular motifs that relate to the overall narrative of the journey of the sun. On figures 1.6 to 1.12 I have selected and combined episodes from various rock art panels that refer back to the original mythological narrative of the sun journey. Although there is some regional variation it can be demonstrated that Bronze Age rock art in Scandinavia contains scenes from the shared Indo-European myth about the sun journey.

Religion and rock art interpretations

Why are religious interpretations in archaeology and rock-art studies the focus of research in some periods, while they are neglected in others? To answer that question let me begin by presenting a long forgotten scholar. In 1963 Åke Ohlmarks presented a popular synthesis on rock art and religion during the Bronze Age. Originally a specialist on comparative religion he was able to draw on a corpus of religious knowledge that archaeologists at the time did not possess, albeit they did not want to know about. He continued a research tradition founded by Oscar Almgren with the book from 1927; *Hällristningar och kultbruk*. In this book Almgren, an archaeologist, had studied European folklore and comparative religion to gain access to a better understanding of Bronze Age religion, as manifested in rock art. This ground-breaking book was part of a new culture historical revival, initiated by Gustav Kossina in the decades around 1900,

which now expanded to encompass archaeological interpretation throughout Europe, although with other interpretative perspectives, such as the study of religion.

The cultural-historical revival was a common phenomenon in the humanities and social sciences during this period, represented in anthropology by the works of Franz Boas and James Frazier in the USA and England, die 'Kulturkreislehre' in Vienna, in the rise of phenomenology and of a comparative Indo-European mythology in France and Germany, and Heidegger's search for an irrational Being in philosophy. Much of this was revived during the post-modern period in the humanities and social sciences (see also discussion in Bruce Lincoln 1999, ch. 3 and 7). Lincoln concludes in a rather defeatist manner that it is not possible to study myth without being ideological, and therefore he now abstains from it and concentrates on studying the ideological use of myth in the present. His arguments, however, pertains to most of the humanities. The implication is therefore not to stop researching the past, but rather pursue such research with a critical consciousness about the interaction between past and present.

Whereas Oscar Almgren's book earned him justified fame this was not the case for Åke Ohlmarks. Late in life Åke Ohlmarks summarised his views in a grand synthesis on the development of prehistoric religion in Scandinavia, based on a combination of Norse mythology and archaeology. The book was printed in 2000 numbered copies, and provides interesting reading, despite some rather bold interpretations of the archaeological evidence (Ohlmarks 1979). His book (and others before and after) was more or less ignored and forgotten by the archaeological establishment, who now favoured a more objective study of rock art. This research trend culminated in Göran Burenhult's and Mats Malmer's typological and quantitative exercises from 1980/1981, Bertil Almgren's formalistic curvature analysis (typology in disguise, only published in 1987, nearly two decades after it was written), and Jarl Nordbladh's structuralist interpretations from the late 1970s and early 1980s (Nordbladh 1978). Why this dramatic change? Here we need to situate rock art research in the wider historical cycles of archaeological interpretation and theorising. The ideological climate had changed after the Second World War, and so archaeology and the humanities followed suit. Pre-war historical interpretations were now considered ideologically tainted and methodologically flawed, and they were universally rejected, in the work of the Swedish Mats Malmer (Malmer 1963). Instead a new concern for objective science prevailed, much in the tradition of the later 19th century, which was to last well into the late 20th century. It is using objective science that rock art research followed the general global trends; as I have formerly summarized in a diagram of cyclical change during the last 200 years (Kristiansen 1998, fig. 14). On Figure 6.1 I have redrawn the cycle, but added new names to illustrate the point I wish to make, that the link between rock art research and interest in religion corresponds to a historical barometer determined by the global cycle of Rationality versus Romanticism in ideological climate (also recently supported by Flemming Kaul 2004, ch. 1). In periods of rational, positivistic thinking, religion is considered an irrational epiphenomenon which functions as an ideological

mirror of society. It can therefore be employed to understand social organisation, *e.g.* through analyses of grave goods. A classical example from the previous rationalistic cycle is Lewis Binford's 1971 article on mortuary analysis, which gave rise to a whole research tradition (Binford 1971). However, in more romantic periods, culture-historical-thinking religion is considered an independent organising power, whose cosmology pervades all aspects of society. Therefore an understanding of the inherent nature of religion becomes a main objective. Lotte Hedeager's *Shadows of another reality* (title translated from Danish) from 1997 may serve as a classic example within the present Romantic cycle (Hedeager 1997). On Figure 6.1 I trace these changes back in time.

The early 19th century of Romanticism was the great period of culture-historical revival and translation of sagas (in Denmark N. F. S. Grundtvig, Danish poly-historian, poet and priest translated the Icelandic sagas and used them in his poetry and history writing), documentation and study of folklore (the Grimm brothers in Germany), just as historians such as Finn Magnussen in Denmark combined Norse mythology and archaeology. Here archaeology merely served to illustrate the historical sources. His work was critically scrutinized by Worsaae, which paved the way for presenting archaeology as an independent discipline with an own methodology derived from natural science (Kristiansen 2002). It led on to a Rationalistic period of positivistic research led by Oscar Montelius, Hans Hildebrandt and Sophus Müller from 1860 onwards. By the early 20th century a new culture-historical revival reintroduced the use of Norse mythology in archaeological interpretation in the works of Bernhard Sahlin, Oscar Almgren, Just Bing and late in the period Åke Ohlmarks. However, after 1950 the positivistic, rationalistic wave again swept through archaeology and the humanities,

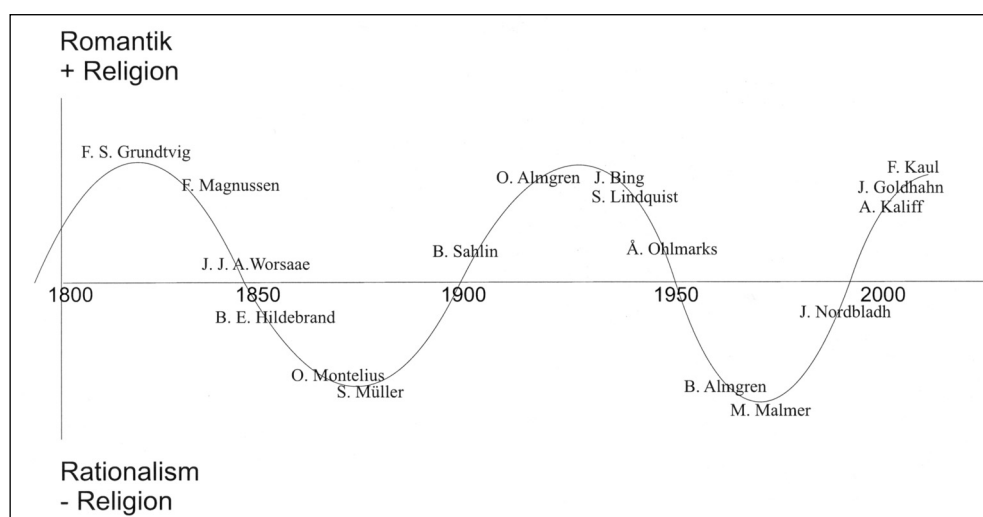


Figure 6.1: Cyclical changes between Rationalism and Romanticism in archaeological/culture-historical interpretation, and the corresponding value ($\pm$) attached to religion.

and empirical studies of classification took over in the works of Bertil Almgren and Mats Malmer, which owed much methodological inspiration to Montelius. It was later followed by structuralist analyses of rock art by Jarl Nordbladh, which paved the way for a re-introduction of religious interpretations by the 1990s.

So the answer to why Åke Ohlmarks was ignored and forgotten is, at least in part, that he was out of time. His book came at the wrong time, too late to be considered interesting by a new generation of archaeologists raised to resist the earlier paradigm (so Bertil Almgren could indirectly take a stance against his father Oscar Almgren in the new paradigm). And it came too early to be considered interesting by the new generation of archaeologists of the post-processual tradition who re-introduced the study of ritual and religion during the 1990s, in works by Anders Kaliff (1998), Flemming Kaul (1998), and Joakim Goldhahn (1999a and 1999b). They hardly knew Ohlmarks as we shall see. Jarl Nordbladh may be said to bridge the two paradigms by introducing a structuralist approach that paved the way for an analysis of the meaning behind the rock art, yet without taking religion into account. During the first decade of the 21st century we have seen more research on rock and religion in the works of Åsa Fredell (2003), Lasse Bengtsson (2004), John Coles (2005), Camilla Fari (2006), Katherine Hauptman Wahlgren (2002), Johan Ling (2008), Lene Melheim (2006), Flemming Kaul (2004), Anders Kaliff (2007), Dag Widholm (2007), and Kristiansen and Larsson (2005, ch. 6). In short, Scandinavian rock art studies have entered the centre stage of archaeological research with an astonishing published output of 500 titles during the last 5 years (Goldhahn 2006).

However, I wish to return to the work of Åke Ohlmarks. In the book from 1963 he presented an interpretation of the sun as a personified god based on comparative evidence from Egypt (Ohlmarks 1963, 22–45). He borrowed the idea that the sun is carried on a ship, which passed through different stages during day and night. In Egypt there is a day ship and a night ship, and the sun has to change from one to the other at dawn, a scene often pictured in contemporary Egyptian iconography (Figure 6.2). He was then able to demonstrate that similar scenes can be identified on Scandinavian rock art (Ohlmarks 1960, 49), although some of them were later considered questionable (Fredell 2003, 212). He also found some rather scant evidence in Old Norse religion that referred to the sun god and the ship change. In an original study 40 years later, Flemming Kaul demonstrated that the sun journey could be reconstructed by combining select scenes from the artwork on Late Bronze Age razors (Kaul 1998, fig. 170), apparently without knowing of Ohlmarks previous work. He also introduced the helpers of the sun: the horse, the bird, the fish and the snake, of which Ohlmarks had already identified the horse. In his most recent work Flemming Kaul has now pursued the Egyptian connection put forward by Ohlmarks, and developed it further (Kaul 2004).

In the following I wish to carry out a reanalysis of the sun journey in rock art. It is based upon the recent interpretation carried out by myself and Thomas Larsson

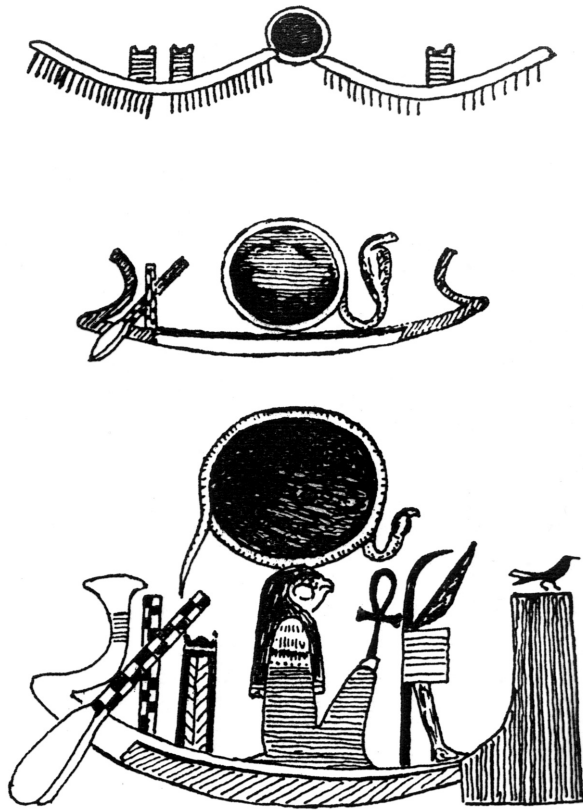


Figure 6.2: Egyptian depictions of the change of sun-boats from the Pre Dynastic period, below are night and day ships from the Late Dynastic period. It demonstrates the long continuity of this central religious myth in Egypt (after Ohlmarks 1963, 46).

(Kristiansen and Larsson 2005, ch. 6.3 and 6.4), based upon old Indo-European mythology about the sun maiden and her twin brothers and helpers, the Divine or Heavenly Twins, who in disguise of ships and horses come to her help. In a recent article Daphne Nash observed that the same story is depicted on Iron Age coinage among the Belgae in south-eastern England. Here it found an afterlife, perhaps because 'in this nocturnal drama the Heavenly Twins served until the end of pagan antiquity as specialized saviours of soldiers in battle and of anyone in peril at sea. They were conventionally depicted as two handsome youths, as twinned horses, or two men with horses, and as two stars because they were set forever in the night sky in the constellation Gemini, as an aid to navigation' (Nash in press). She summarises the myth very succinctly:

'In the particular story... the bright daughter of the sky god, who personified the radiance of the Sun itself – Eos in Greek, Aurora and Mater Matuta in Latin, Sol, Sul, Brigantia, Brigit, and Eostre in various northern lands – is chased in her chariot through

the daylight sky by primeval monsters from the night and the nether world – either dragon-snakes (here) or wolves (elsewhere). At the crisis of sunset they capture her and take her into the waters of night. Her twin brothers – one divine and one mortal – come to her rescue and one, at least, ships her towards dawn, defeating or shackling night's monster(s) until the eastern bounds of morning are broken and she and her sun-disc are released for another day.' (Nash in press, West 2007, 186–91 on the Divine Twins, and ch. 5 on the Divine Sun).

It follows from this that Kaul's interpretation of the sun journey should be modified, or rather expanded. The snake and the water dragons are enemies of the sun, not helpers, and several of the wave figures on the razors could well be interpreted as the water dragon or serpent. The more universal Indo-European drama between the thunder god and the water dragon/serpent encircling the waters and lands (West 2007, 255ff.), is in all likelihood unfolded on many Period 5 hanging vessels, where the centrally-placed sun is rising and setting in a sea of wavebands, some of them sea-monsters, some sea-horses and sun-horses.

While this myth can be illustrated and materialised, as it were, by combining Bronze Age iconography, bronze figurines, burials, hoards, and rock art (Kristiansen and Larsson 2005, fig. 139), I now wish to explore if similar scenes referring to the sun journey can be identified in rock art alone. I apply Flemming Kaul's method of identifying singular motifs from the overall narrative of the journey of the sun. If it can be demonstrated that they cover the whole sequence in thematic form, I take it as confirmation that some rock art refers to basic Bronze Age myths albeit in another medium than bronze. A few rock art panels were already identified by Flemming Kaul as relating to the overall narrative of the journey of the sun (Kaul 1998, fig. 171 and 172). However, I wish to do a systematic coverage, based on all published evidence in Scandinavia. From Bohuslän I have used the documentation gathered in six reports from Vitlycke Museum, edited by Lasse Bengtsson that appeared between 1995 and 2002, and work is still in progress. Also the two reports edited by Gerhard Milstreu and Henning Prøhl from the rock art museum in Underlös were used. A wonderful monograph by John Coles: *Shadows of a Northern Past* appeared in 2005, and contains most of the best carvings from western Sweden and south-eastern Norway. From southern Norway I consulted mainly Marstrander (1963), Vogt (2000) and Fett and Fett (1941), from Scania Althin (1945), from eastern Sweden Nordén (1923), and from Uppland Coles (2000). From Denmark I have consulted Kaul (2004).

In addition I wish to test the range of variation in the rendering of this central myth in rock art, and I will discuss if variations are thematic or rather represent different renderings of a singular myth. I make no chronological distinctions, as most rock art panels display continuity of use, where later additions form part of the logic of previous scenes. Sometimes older ships would even be updated with new modern stems and sterns. Only few panels, not to be discussed, display clear and conscious discontinuity. It should also be noted that rock art and Bronze Age iconography employ the method

of episodic narrative. This is the logic behind the various select episodes of the sun journey on razors, each referring to a decisive moment in the myth, which would be known in its entirety by those using the razor.

The sun journey and related myths in Scandinavian rock art

While many singular motifs have been identified as belonging to the sun journey, such as the horse pulling the sun, few attempts have been made to reconstruct from the many rock art scenes those who thematically belong together by retelling a myth, in our case about the sun maidens journey during night and day, helped by her twin brothers (the Divine Twins), and the drama accompanying the journey. It should be noted that the Divine Twins shapeshift, from horses to ships, or from horses to axes, and they are mentioned in the texts as sailing in hundred-oared ships. Their original name in *Rig Veda* is the *Asvins*, meaning horse born and those who control horses. The Greek *Disocuri* and a similar divine pair of twins in Baltic folklore all share a common origin with the *Asvins* as sons of the sky god, just as they have similar functions, linked to horses, speed and travels, as well as in their role as rescuers. They are the third generation of gods, and belong in the mature pantheon of Indo-European religion, and in opposition to the original sky god whose name is shared in all Indo-European languages, their names were later adapted to local traditions, which suggests that they belong in a later historical sequence of interactions during the early Bronze Age, linked to the spread of chariots and horse dressage (Kristiansen *in press*).

The relationship between ships and horses on rock art has been recognised as being part of an original Indo-European package of myth and rituals (Østmo 1998). However, there have been few attempts to analyse their specific relationship and religious meaning in a systematic way. In more recent studies by myself, and Thomas B. Larsson, the descriptions of the Divine Twins and their functions in the texts have been used to identify their attributes in iconography, rock art and material culture (Kristiansen and Larsson 2005, ch. 6.7). By establishing a correlation between text and material culture the Divine Twins could be safely dated to the Bronze Age in Europe. It could be demonstrated that twin ships is a common motive on metalwork and rock art. It symbolises the Divine Twins in one of their functions as protectors of sailors, while carrying the sun safely through the night. This symbolism further demonstrates continuity throughout the Bronze Age, as seen on Figure 6.3.

It should be noted that Flemming Kaul did not employ Indo-European mythology in his work. He was therefore unaware of the Divine Twins, and consequently he ignored those few examples where they are depicted on decorated razors, either in person (Kaul 1998, fig. 165, catalogue no. 210 and 273), or the more numerous examples of twin ships (Kaul 1998, fig. 143–4, and many more in the catalogue). The motifs are also found on Central European bronze iconography and pottery. The two decorated axes from Hajdu Samson in Hungary from the early Bronze Age depict a double ship, one upside down (day and night ship), a form employed on Danish Late Bronze Age

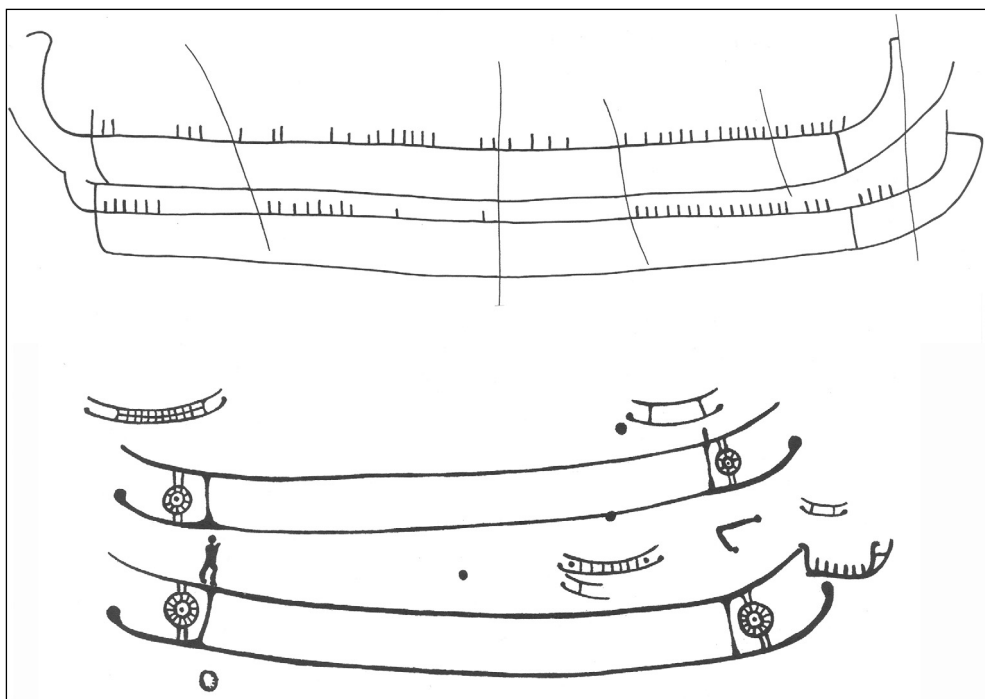


Figure 6.3: Two examples of twin ships, on top from the Early Bronze Age, and bottom from the Early Iron Age. They cover a time span of 1000 years. The ship in the middle from the Early Bronze Age, illustrate that already at that time could the sun be added to the stem.

iconography a thousand years later (Kaul 1998, fig. 175, and 176 from Roumania). It suggests that the symbolism linked to the Divine Twins was already widespread from the early Bronze Age (Pasztor 2008, Vianello 2008).

The intimate, symbolic relationship between ships and horses is also demonstrated in the use of horse heads on the stems of rock art ships during most of the Bronze Age. The head of a swimming bird (swans, ducks etc.) takes over on metalwork during the late Bronze Age, but rarely on rock art. It lends special significance to the mythological connection with the Asvins (horses) that rock art ships are depicted as transformed horses. They are animated and retain their capacity to become horses that pull the sun or sun chariot at dawn, as we shall see. Such shape shifts and animations also pertain to other objects, such as axes.

The divine horse ship often carries the sun, as illustrated on Figure 6.4. I collected 12 examples that show how the sun is carried in various ways: in the middle of one of the ships or between oarsmen, standing on a pole, or simply hanging over the ship. When there are two suns, we may think of it as day and night sun, as on Trundholm. The sun appears in the most common symbolic forms, as simple cup marks, as a circle, concentric circles, or as a wheel.

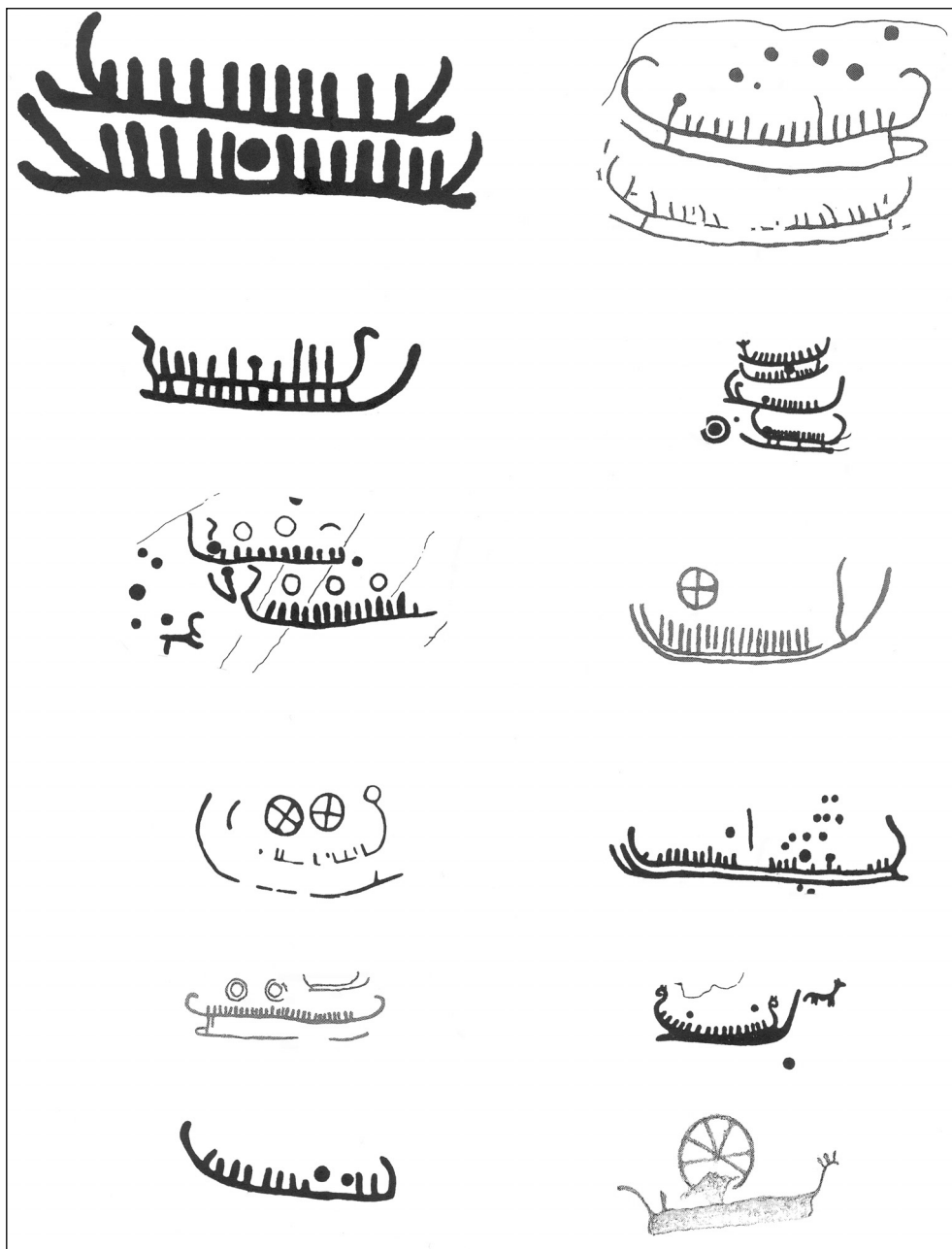


Figure 6.4: Select examples of rock art scenes where the sun or suns are carried on a ship or on twin ships. The examples show both night ships (sailing from right to left) and day ships (sailing from left to right).

I have now demonstrated that twin ships – often with horse attributes on the stems symbolising the Asvins – carried the sun on many rock art panels. The next question is if this representation was part of a more complex narrative of the journey of the sun. It can be stated that twin ships may appear both as an isolated mythological and episodic statement, and as part of a more complex narrative. But before turning to such more complex pictorial statements it is necessary to discuss principles of cosmological geography. How was space on rock art employed? Did the Bronze Age rock carvers employ more than one principle of cosmological space? An understanding of this is of utmost importance for our ability to read the panels correctly (discussion in Fredell 2002, Hauptman-Wahlgren 2002, Bradley 2006).

On Figure 6.5 I have assembled some examples of the use of mythological space. They demonstrate two things: the conception of up and down (upper and lower realms) could be shown as upside down for the lower realm. And movements between them would take place by literally turning ships or other things vertical. Other panels, however, from the later Bronze Age do not apply this principle of upside down any longer, and demonstrate instead the day and night ships by the direction they sail – towards the right during day, and towards the left during night (and mostly below the day ships in the underworld), as demonstrated at Fossum (Figure 6.6). We also see horses and humans come down and land on ships. So there are probably several perceptions of space at work simultaneously.

Now that we have identified the divine ships as carriers of the sun, let us begin to look for some possible action. On Figure 6.7 I have assembled a number of examples that introduce other actors and actions to the twins' ships. On the top examples we see how the two ships are artificially linked together, and some form of horned human figures is added. Animal figures, most probably horses are added, in pairs, as Divine Twins. Also human twins (divine?) are found, mostly as axe-bearers. On the last two examples the human figures and the sun are set in motion. Not only figures, but also the sun is moving. On Figure 6.8 I have assembled further examples of how the sun can be moved around and change position on the ship, from the middle of the ship to the stern, when it is either leaving or arriving. Human figures may carry sun discs, or the sun may become animated with arms or legs, in this example sitting on the stem. However, it looks as if the ship or its stems/sterns are also animated and can move or carry the sun on their own.

A smaller helping ship is introduced in one of the examples on Figure 6.8, which is a recurring theme, just as the Divine Twins appear regularly as lure blowers (illustrated by two curved figures or signs on the ship), or they appear in full person as axe bearers. Some of the ships are sailing from east to west (night ships), some from west to east (day ships). This allows us to understand the meaning of the figures. In one of the examples the two horses have just arrived to take the sun on a ride. On the other figure we see the ship lifting god, lifting the ship up from the underworld/sea, and helped by the Divine Twins with axes and with sun discs waiting to be mounted for the day trip.

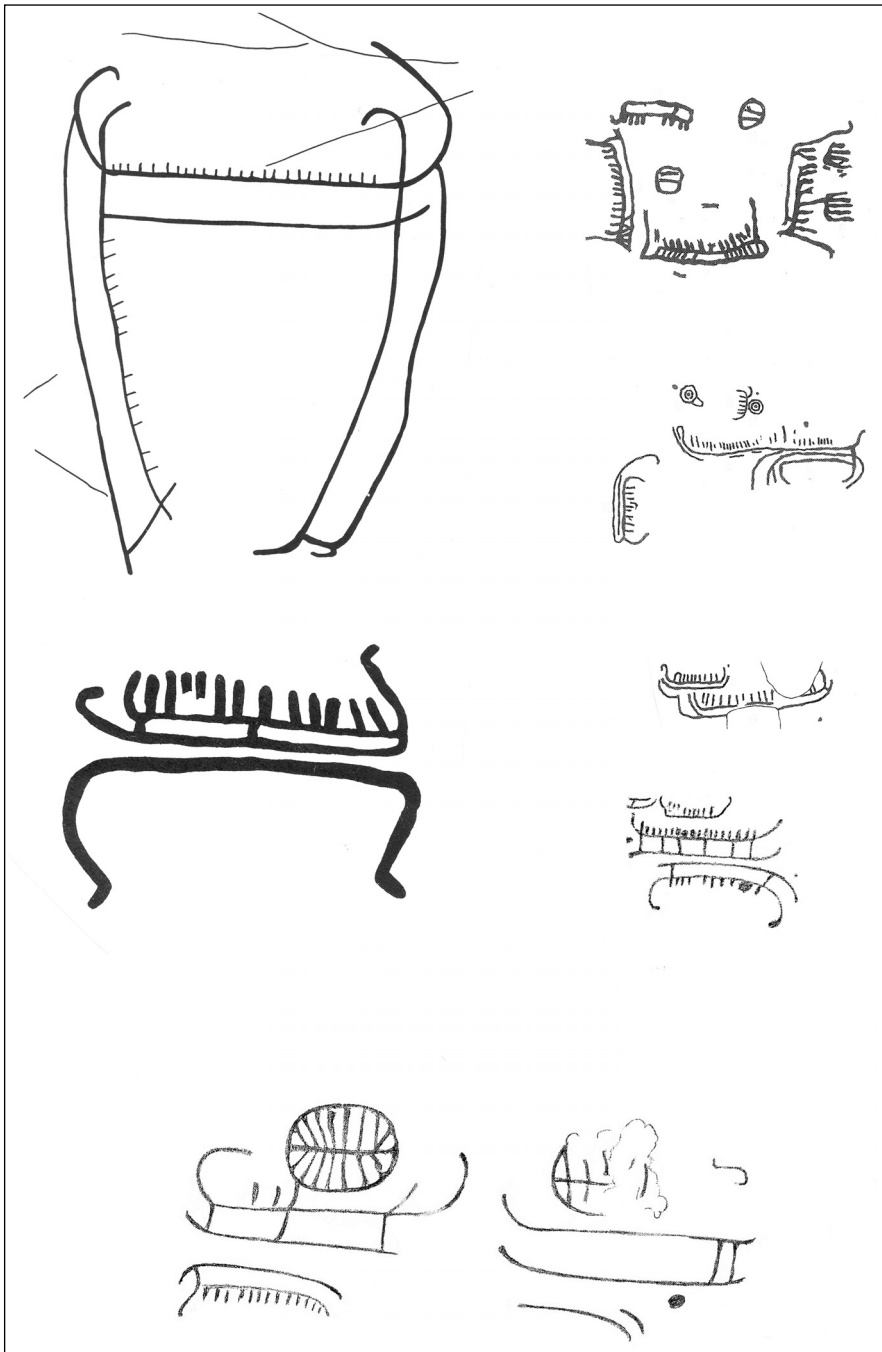


Figure 6.5: Examples of the inverted use of mythological space, where the underworld or the lower realm is presented with ships turning upside down.



Figure 6.6: Section from complex scenery at Fosså in Tanum. It shows day ships sailing towards the right on top and night ships sailing towards the left at the bottom. Between them mythical narratives are inserted. Documentation by Tanums Hällristningsmuseum and reproduced by courtesy of SHFA (Swedish Archive for Rock art Research).

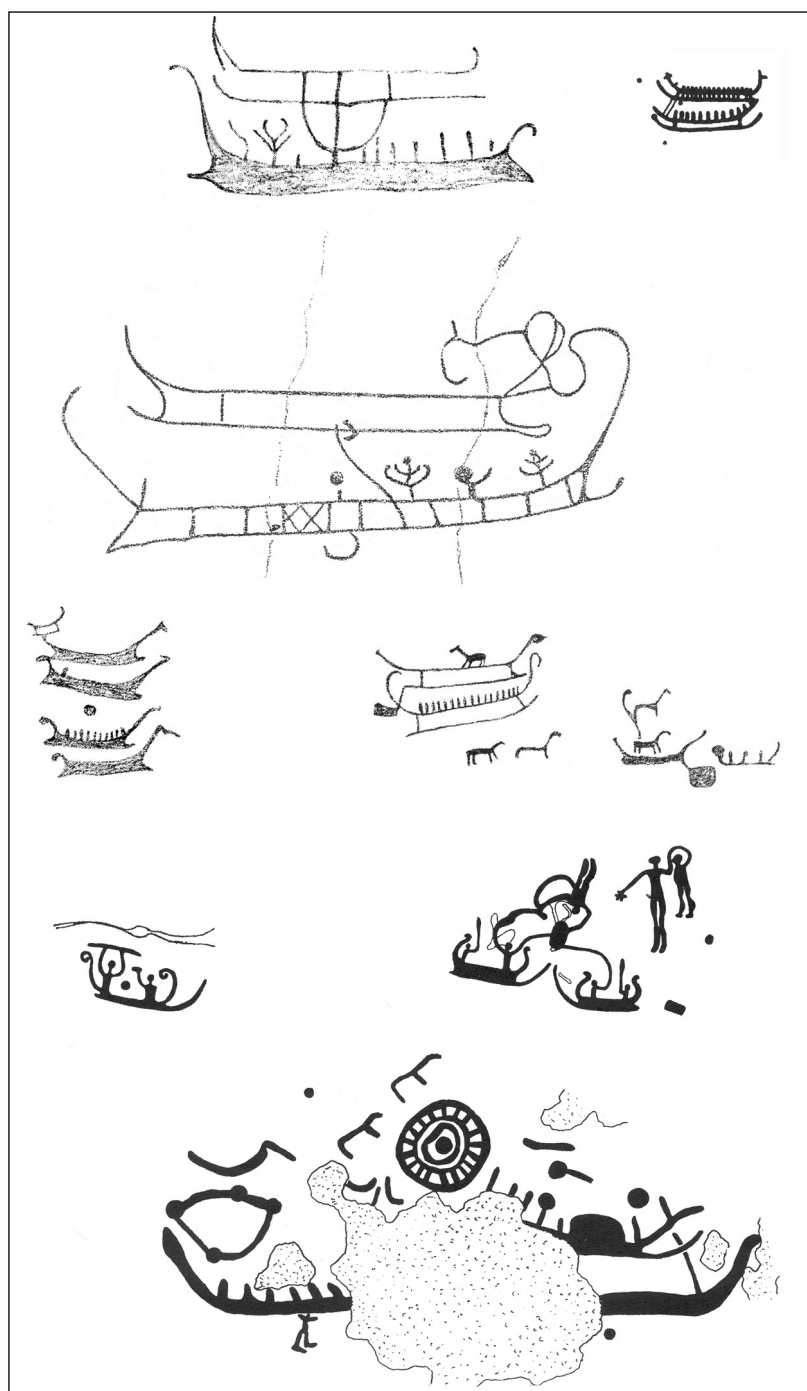


Figure 6.7: Examples of twin ships with some actors and action added.

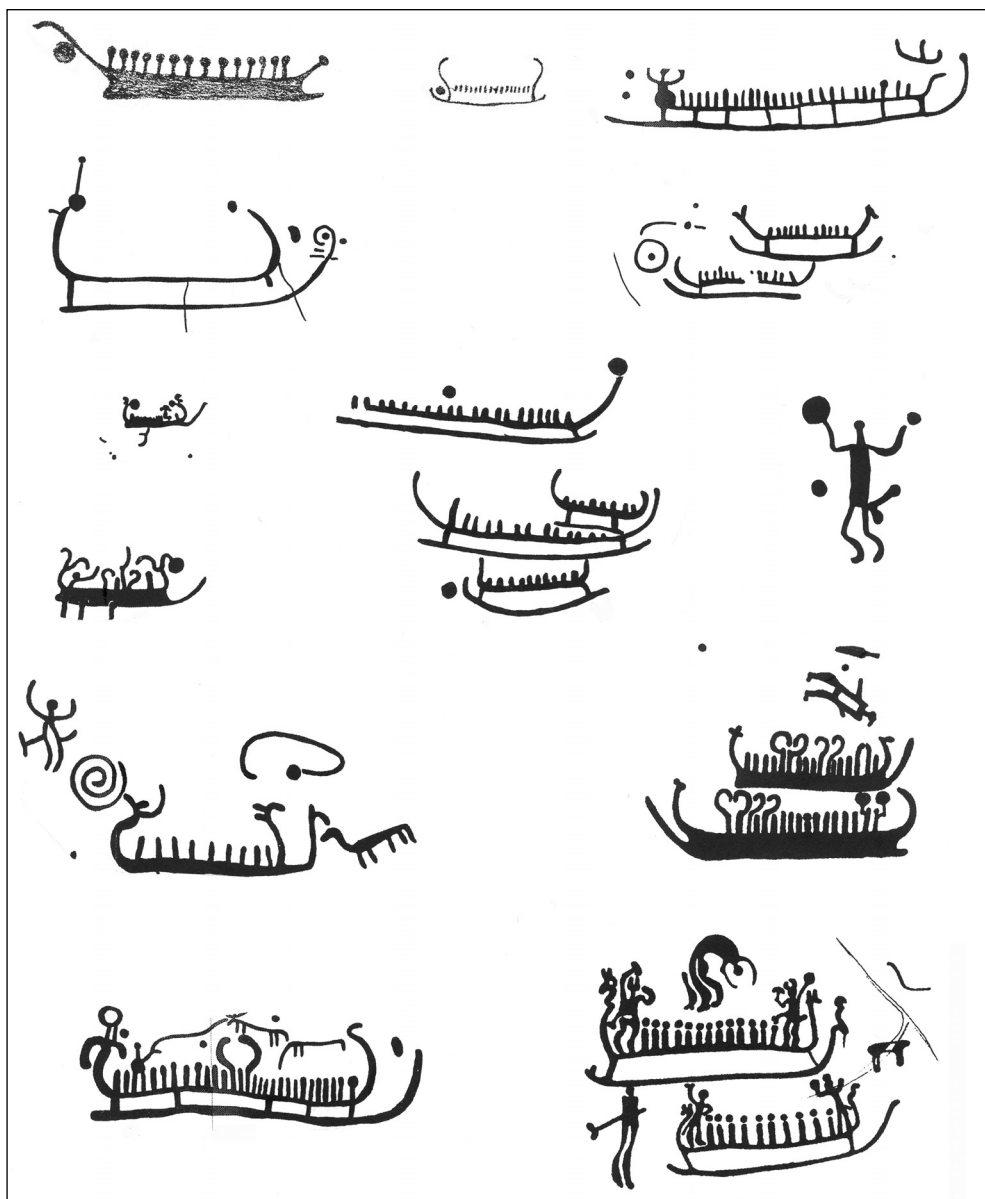


Figure 6.8: Moving the sun around with ships and sun in various positions.

Next on Figure 6.9 there are some more clear-cut examples of the transition from day to night and from night to day. Again we meet the ship-lifting god, taking the ship out of the underworld. We also see the little helping ship has landed on a bigger ship. On another example the sun god or a helper carries the sun out of the night ship. Animated axes are linking the two ships together and a horse is ready for taking

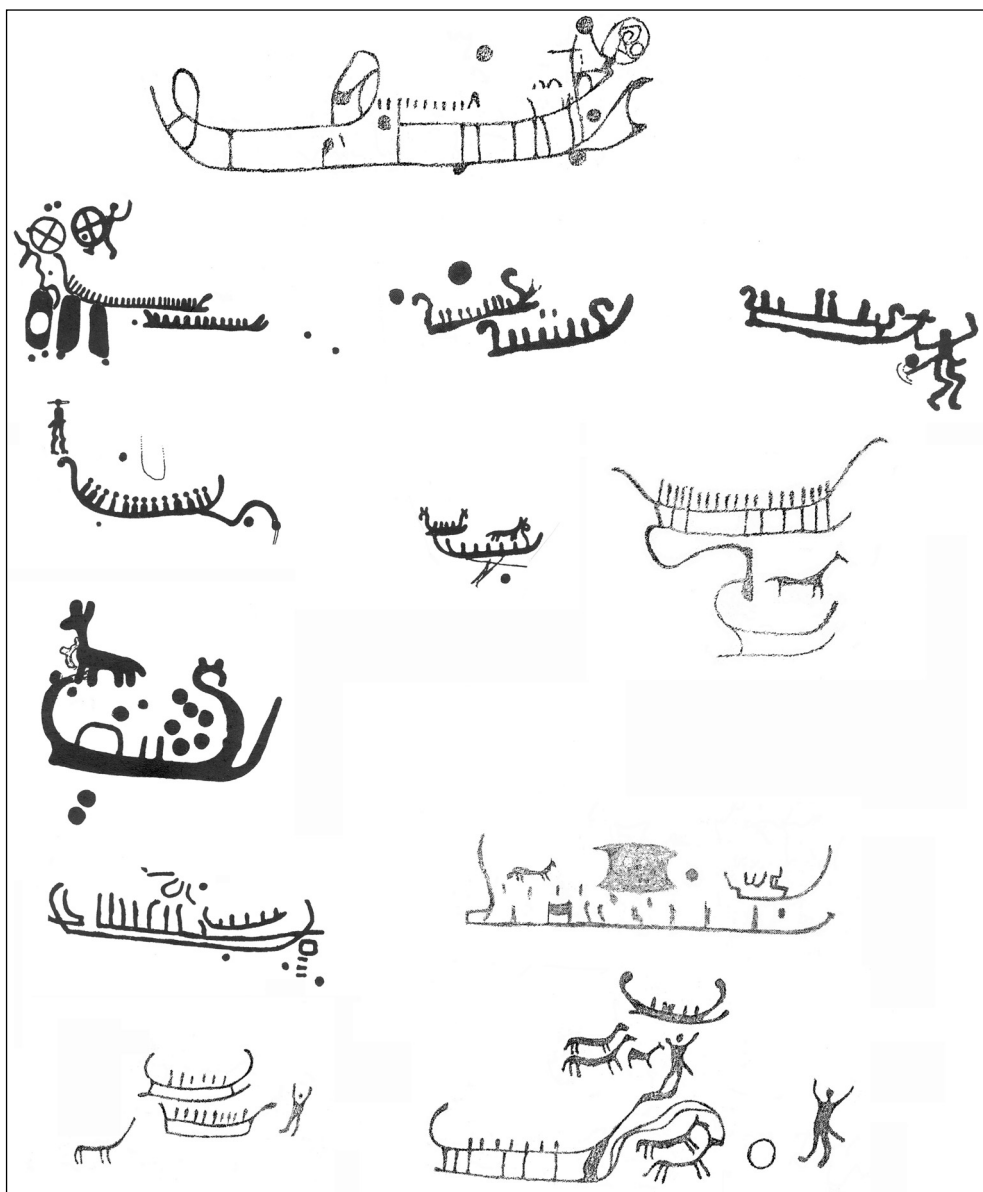


Figure 6.9: Day ship, and the transition from night to day ship.

the sun on the day ride. The waiting horse is also seen on two other examples. A more complex transmission from night to day is found on the bottom example. First the day horses are landing above the ship, directed by the god on the stem. Next they are drawing the night ship up, with the sun in front of them, again being directed by a helping god. One could also assume that this is a day ship drawn by horses.

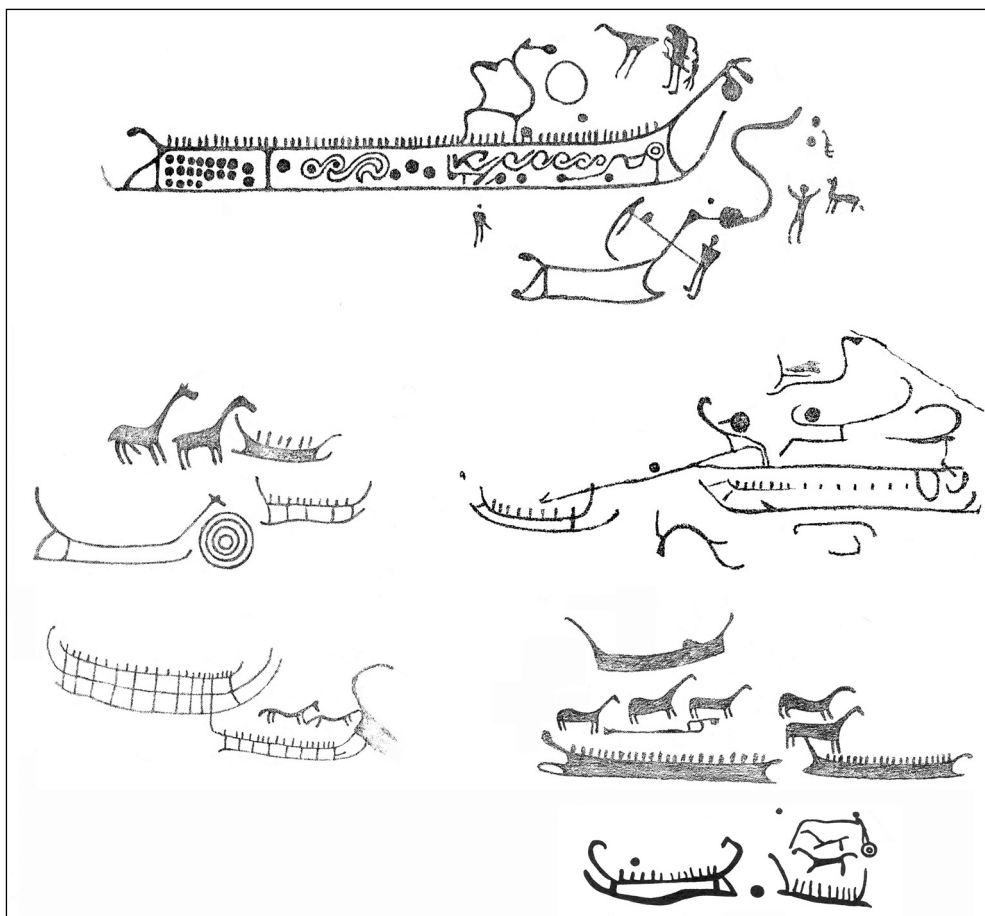


Figure 6.10: *The change from day to night ship, and the landing of the sun horse.*

The transition scenes are further elaborated on Figure 6.10, mainly representing the day ship and the transition to sun horses. On top the horse is standing on the ship with a big sun disc in front of it. Below the ship a smaller helping ship is arriving, being directed by a helping god, while the sun disc is being lifted in a rope (sun disc in rope is also seen in Figure 6.8). On the next example the sun disc is leaving the night ship, while the twin horses are waiting, with the twin ships. On the example to the right in the middle things are in more flux or being more transformative, the helping ship apparently lifting the sun away. In the next example the two horses have landed, and the same is repeated on the next scene, while in the last example horses drawing a chariot are landing on the night ships to take over the sun for the day ride.

On Figure 6.11 I have assembled some examples from eastern Scania and eastern Sweden where axes are acting as helpers to the night ship. As twin axes are also an attribute of the Divine Twins we may here be seeing how axes are personified as divine

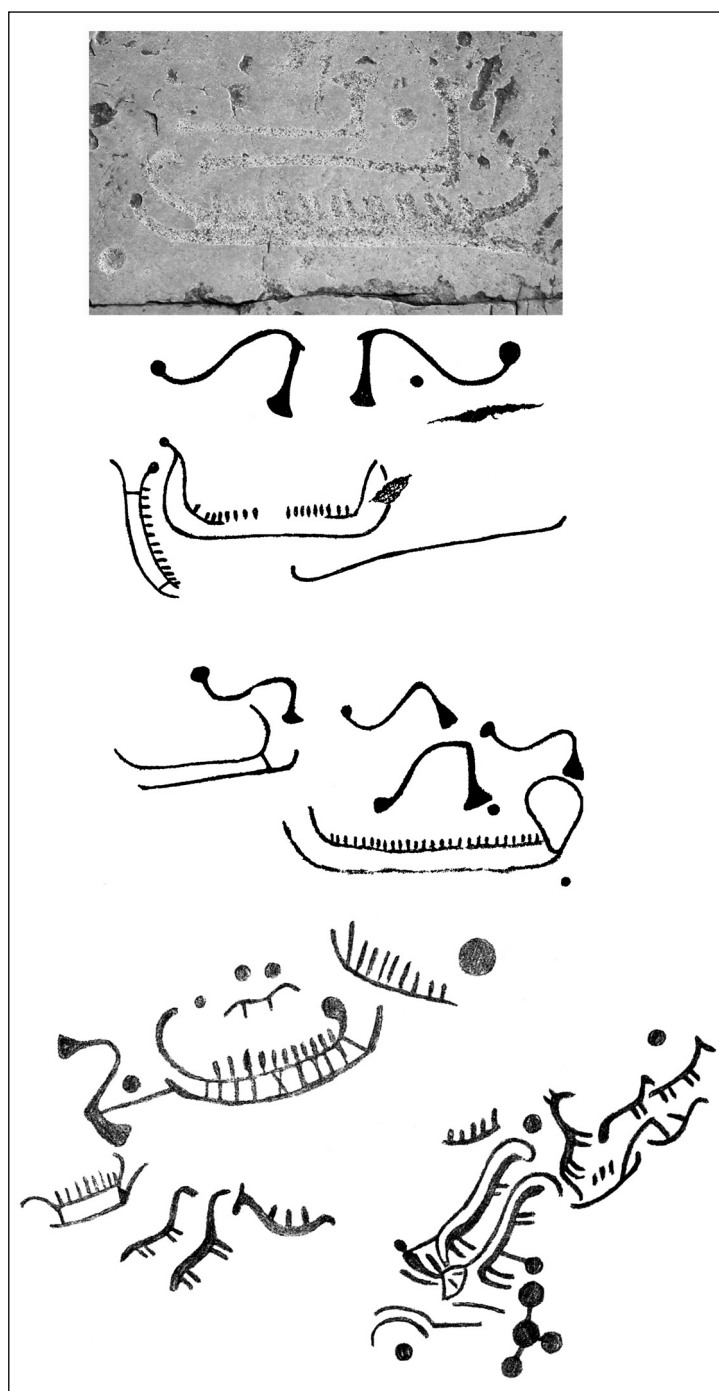


Figure 6.11: Night ships with animated helpers from eastern Sweden.

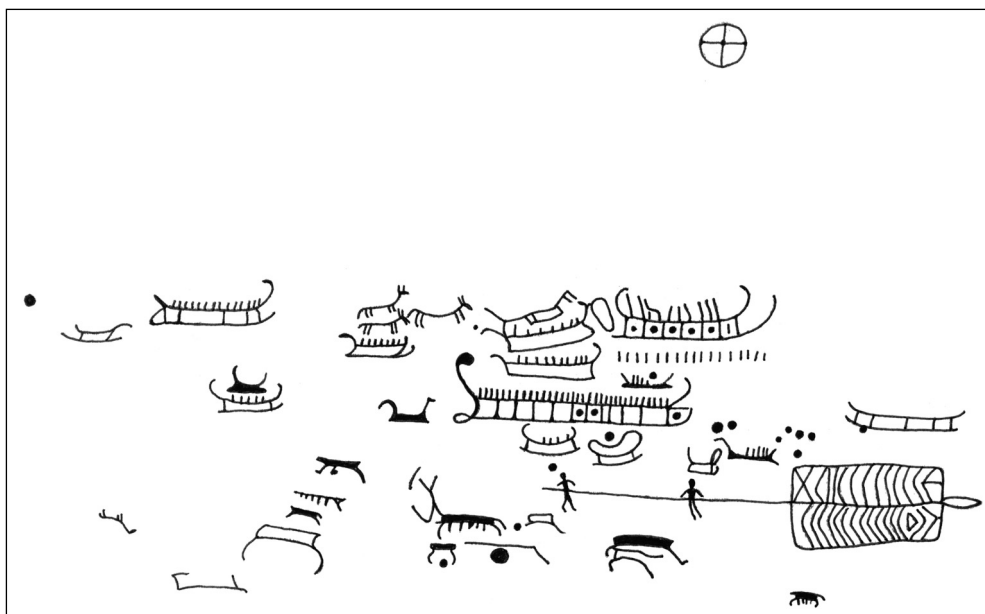


Figure 6.12: Example of panel from eastern Sweden with day ships and inverted night ships.

beings. On top they guard the sun on the night ship. Below we see how they are moving the sun from the night ship and in the process also draw the ship on land, so the sun horses and the chariot can take over the ride. It exemplifies the transformative nature of gods and their helpers, and it makes it clear that axe bearing humans on rock art truly represent gods, mostly the Divine Twins.

Finally, I have chosen a panel (Figure 6.12) where we see a complex scene that might constitute a single narrative from the myth of the sun journey, with day ships and horses above and night ships below. It suggests that ships may also take part in the day journey of the sun, at least on some panels.

Conclusion: rock art and Bronze Age religion

We may conclude that rock art repeatedly depict motifs from the shared mythical repertoire of Indo-European/Bronze Age religion, whose basic structure has been convincingly demonstrated in recent research (Fredell 2003, ch. 7). I have exemplified the various stages in the myth of the journey of the sun, as handed down to us in texts from India to the Baltic, and represented not only in rock art but also in figurines, iconography, hoards and burials (Kristiansen and Larsson 2005, fig. 139). It indicates that Bronze Age religion was complex and possessed a pantheon of gods with various functions, and among the most important were the sun god/goddess and their helpers and rescuers the Divine Twins, which in various disguises, as ships, axes and horses, and as twin stars (the morning and evening star) ensured that the journey would

successfully pass through its transitions and overcome the dangers underway. It may well be that some of these additional stories and rituals were played out in rock art as well, but here I have concentrated on a single storyline. Rock art can be demonstrated to contain other basic religious myths of Indo-European origin, as demonstrated by Åsa Fredell and Lene Melheim (Fredell 2003 and 2007, Melheim 2006, ch. 5 and 6). It is indeed no surprise that the Heavenly Twins and their attributes, ships and stars/sun, should be a dominant motive on what is a predominantly maritime rock art, exposed towards the sea (Ling 2008). The rituals proceeding maritime sea journeys must of necessity evoke and call upon the help of the most prominent helpers and protectors of sailors: the Heavenly Twins and their hundred oared ship, as well as their twin stars that helped them navigate safely through the night. Therefore the ship is a recurring motif in rock art, whether displayed in pairs or as part of the nocturnal drama of the sun in its eternal journey through the dangers of day and night.

I have also demonstrated that local and temporal variation existed in the depiction of the journey on rock art. The various scenes may concentrate on different aspects of the journey, but true variations also occur. In some scenes horses land on the ship to take over the sun journey or transfer the sun, in some they draw the ship, in others axes draw the ship. In this we see the transformative and animated nature of gods, things and animals at play.

We may further conclude that the rock art depictions of the journey of the sun correspond to the same motives depicted on bronze razors from the Late Bronze Age, as reconstructed by Flemming Kaul (Kaul 2004, fig. 67, Fredell 2003, fig. 2.3). However, there are also differences. On the razors the helping animals are the fish, snake and bird. The snake and fish obviously belong in the netherworld of the sea, and we do not find them very often on rock art – at least we cannot identify fish – whereas snakes appear from time to time. However, the snake/serpent belonged to the enemies of the sun, as we have seen. In addition, there is more variation among the ships on rock art: the twin ships appear regularly and a little helping ship as well. On some razors we do find the twin ship or helping ship on top of the larger ship. But clear-cut double ships on bronzes belong with the elaborate neck rings with oval end plates from period 5, where the oval plate itself is a ship (making up twin ships), just like the razor. In this way a kind of symbolic double effect was achieved, a common phenomenon on Bronze Age metalwork and iconography. On rock art we often have difficulty in delimiting individual scenes; other mythical scenes also appear. Therefore we have even greater difficulty in delimiting the relevant scenes, but this in itself offers various points for consideration: how do the various figurative components relate to each other. Are different readings of the same panel possible, depending on the combinations of motifs, forming different mythological narratives? Finally it should be borne in mind that most rock art is located along ancient coastlines, and thus has a clear maritime focus (Ling 2008). Therefore most scenes are dominated by myths linked to sea-faring journeys, and to rituals where

ships play an important role, as in the journey of the sun, where the Divine Twins acted in their double role as rescuers of the sun from drowning in the sea and as protectors of sailors in general. We should then expect non-maritime motives to dominate on inland rock art, which has indeed been demonstrated (Ling 2008, fig. 9.3 and 9.4, Bradley 2006, fig. 9).

I found it comforting that Richard Bradley quite independently reached rather similar conclusions (Bradley 2006). At the time of writing none of us knew about the other's work. See also Bradley and Widholm (2007). As a next step it would be a worthy task to trace the drama of the journey of the sun more systematically in Eurasian Bronze Age iconography. For the Late Bronze Age this was admirably done by Ernst Sprockhoff more than 50 years ago (Sprockhoff 1954).

The fact that the basic motifs in the narrative of the sun journey can be documented independently on metalwork and on rock art indicates that we are dealing with a shared Bronze Age religion throughout the Nordic realm, albeit with some regional and local variations. While some researchers have emphasised the variations (Skoglund 2008), I have focused on the shared elements, as they constitute a basic mythological storyline from which local interpretations could be made when it was applied to different media and materials - from rock art over metalwork to ship settings and burials.

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To Excavate Images

Some results from the Tanum Rock Art project 1997–2004

Lasse Bengtsson

This article deals with the potential of excavations close to rock-art sites in order to gain knowledge about the rituals and sacrifices performed in their vicinity. It also discusses the role of fires lit on the rock and the traces of ritual meals and sacrifices of meat and cereals. The importance of natural cracks by the rock-art panels and the use of cracks for ritual purposes are also considered.

Introduction

During its long history, rock art research has tried various ways to increase our knowledge and understanding of the meaning of rock art. In the past years we have seen an increasing interest in the landscape and topography surrounding the rock art sites and a number of important and interesting observations have been made. There may still be, however, a tendency to continue to consider the rock art only as a dot on the map, without actually placing the dot under the magnifying glass in order to see what it contains. Such a close study may perhaps expose the role of the rock art site as a scene of ritual activities and other events. By investigating the immediate surroundings using traditional archaeological methods, including archaeological excavation right in front of and beside the panel, we can hopefully better understand the site in its full complexity. In order to execute such a study, Vitlycke museum and the University of Gothenburg decided to examine the immediate surroundings of a number of rock art sites in Northern Bohuslän, Sweden. The work started in 1997. Within the frame of this project – *The Tanum project* – seven rock art sites have been excavated to date (for a compilation see Figure 7.5). The aim of the excavations has primarily been to find remains of ritual activities but also to try to examine a possible relationship between the established chronologies of the ships on the rock art (see Kaul 1998) and artefacts found on the site. Another important aim was to gather empirical knowledge about the sites and what we could expect to find around them, in the same way that archaeologists

normally have an expectation of what may lay within a grave. That kind of empirical knowledge was more or less lacking prior to the project.

The work and investigations carried out so far have been exceptionally rewarding in terms of new knowledge gained of the role of the rock art sites and the rituals executed there. By understanding the role of the carvings, that is to say the way they were used in ritual contexts, there is also a possibility of a new approach to the main issue – to gain a better insight into the meaning of the art. In this perspective every particular rock art site is, regardless of size, an important and valuable piece both individually and as a component of a greater context and framework. To be able to study the possible behavioural trends that may appear it is important not only to apply qualitative but also quantitative aspects to the investigations.

Research History

The first excavations of rock art sites in Sweden probably took place around 1840. In order to find hammer stones used for making the rock art, Axel Emanuel Holmberg excavated a rock art site. In spite of the fact that he actually water-sieved the soil he did not find any hammer stones or pieces of flint, the material he supposed that the hammer stones would be made of. His conclusion was that the prehistoric people must have used iron tools; consequently the rock art must be from the Iron Age, or more precisely, the Viking age (Holmberg 1848). In the 1920s Arthur Nordén excavated a number of rock art sites in the province of Östergötland, Sweden (Nordén 1925). His main purpose was to find graves and hearths, the latter he supposed to be part of destroyed graves. In spite of the fact that he found burnt stones, pottery and even bronze artefacts he unfortunately never developed the idea about rock art excavations as a means to interpret the ritual role of the images.

In 1975 and 1976 Øystein Johansen undertook investigations in front of the rock art panels at Post Hornnes and Bjørnstad in Østfold, Norway. The excavation at Post Hornnes proved very rewarding in terms of constructions and artefacts, revealing remains of ritual activities in front of the panel. A stone enclosure extended from one end of the panel to the other. Inside the enclosure large quantities of pottery sherds were found; outside, just a few (Johansen 1979, 108–14). Inside the enclosure were also found flint flakes – burned and unburned – burned bones and fire-cracked stones. The excavation in front of the Bjørnstad panel was not that rewarding in terms of artefacts but right in front of the carving a well preserved pavement of stone was unearthed, a feature that later was to be observed at several rock art investigations in Bohuslän.

The rewarding excavations in Norway stimulated work in Sweden. In Bohuslän five rock art sites were excavated in the parishes of Tanum (Kalleby) and Valla (Ule plats, Kyrkhagen, Dammliderna, Västra Röd and Röd, the latter on the island of Tjörn). When the results in Bohuslän turned out to be less rich and spectacular in terms of enclosures etc., the interest appeared to have become cooler. Taken from a wider context though, they were important pieces in a more extensive pattern. It is much to

be regretted that the excavators, in making 0.5×0.5 metre test-hole pits, employed a digging technique that is not suitable for this kind of investigations. Today when we read the reports it is apparent at least in one or two cases that they really had found stone pavements without realising it simply because they looked for enclosures, not pavements (Cullberg 1980 a–b). Nevertheless, we can notice that none of the sites was empty in terms of artefacts. At the site in Kalleby, for instance, amber as well as grain was found. In all approx. 31 rock-art sites have been excavated in Scandinavia. The real number is higher but some of the excavations are poorly reported, if at all. Another important investigation is under process – Madsebakke on the Island of Bornholm, Denmark (for a compilation of the sites see Bengtsson 2004, 106). There are close points of similarity between the material collected at the various sites and the time has perhaps come to try to form a synthesis of the results.

The Tanum Project – to excavate images

The Oppen sites

I will now present the rock art sites excavated in the *Tanum Project* in more detail. The first site to be investigated in 1998 was a carving at the farm Oppen in Tanum parish (id. number Raä 1371). The images are dispersed over four minor rock outcrops and the excavation took place quite close to two of them. In front of one of the sites a paving was found. It was a well built, rectangular construction, which followed the rock for two metres and extended one metre out from it (Figure 7.1). Into and under the pavement flint flakes, some of them burnt, pottery sherds, burnt clay and a hammer stone were found. The hammer stone may have been used to make the rock carving. The paving was radiocarbon-dated to 370–180 BC (2220±45 BC), *i.e.* Pre-Roman Iron age. The dating corresponds well to the main motif of the carving, which is a row of five horsemen. The employment of the horse for riding is regarded as rather late in Scandinavia.

The second investigated site is situated just a few metres from the first panel. To the northeast, the panel is demarcated by a deep crack that was densely packed with fire-cracked stones. Rather high up in the crack a deposit of flint flakes was found. It was possible to refit a half dozen of the flakes to a core, also found in the crack. The fact that several of the flakes could be conjoined is of vital importance for our understanding of their ritual function in this place. The poor quality of the flint tells us that the flakes were never meant to be used as tools; the flint knapping was more probably a ritual act that should be seen connected with the rock art.

In 1999 another rock art site was investigated a few hundred metres away from the first site (id. number Raä 897). It was a minor carving with one ship, one foot sole, one circle and several cup marks. In front of the panel, a paving of the same kind as the one excavated the previous year was discovered. The difference was that this one was disturbed, not to say destroyed, by thick roots that had moved the stones around. On top of the carved rock a hearth was found. Still on top of the rock but a few metres



Figure 7.1: Preserved pavement on site 1371. The ceramic vessel is a reconstruction.

northeast, a massive layer of fire-cracked stone mixed with sandy soil and soot appeared. To summarise, the following material was collected during this excavation: pottery sherds from at least ten to fifteen vessels, two fragmentary crucibles for bronze casting, a stone with a cup-mark, a fragmentary glass bead, a loom weight made of clay, flint flakes including burnt flakes, slag, burnt clay, a grindstone, a part of a quern, a rubber, worked quartz and burnt bones that turned out to originate from pig. Charcoal from the site was radiocarbon dated to 240 BC–50 AD (2045±70 BP), *i.e.* the transition period between Pre Roman Iron age and Roman Iron age.

A soil sample from the hearth was analysed and the result displayed a total absence of corn pollen and grains. This indicates that the hearth has had very little to do with cooking. A study executed on 247 rock art sites in Askum parish 40 kilometres from Tanum revealed that at least 71 panels were affected or even damaged by fire (Bengtsson 2004, 37). The real number is probably much higher, the panels were only brushed off with a broom, so additional damages can most likely be found under the turf. This phenomenon has been observed on many other rock art sites in various parts of Sweden even if the number of affected carvings has not been quantified (Kjellén and Hyenstrand 1977, 8, Kjellén 1976, 17, Coles 1999, 167–87, Nordén 1925, Hauptman Wahlgren 1995, 39, E. Johansen 1944, 298–303, Ø. Johansen 1979, 111, 1980, 93).

From a topographical point of view it seems clear that we are not dealing with simple campfires, which indicates that an overwhelming majority of this fire damage must have been intentionally caused during prehistoric times. There is a tradition in Sweden which

blames iconoclast priests for the fire-damages on rock art because of the sometimes obscene imagery. There is no evidence whatsoever for this in Bohuslän. In other parts of Sweden there exists an occasional mention of a priest blasting away a cup-mark site two hundred years ago (Grundberg 2000, 89). Farmers were sometimes accused of burning straw on decorated rocks. This is even more unlikely to have happened. In older days straw was an important secondary farm product, used for ropes, baskets etc. and as an emergency measure it was given to the cattle. The idea that farmers after threshing would transport the straw back into the fields just to burn is simply not credible. Finally, as we have seen above, and will see below, we sometimes actually find hearths very close to the panels, occasionally even on top of the rock.

So, what was the purpose of the fires? There are several conceivable answers to this question. One possibility is that the people wanted to illuminate the images at night and by creating an oblique light make the images come alive, just as we do today in order to make the rock art more visible. This is an attractive explanation which cannot be totally ruled out, but it is more likely that the fires have had a ritual and ceremonial purpose. I will develop this discussion below.

A cup-mark site in Askum

The next site to be investigated was a cup-mark site in Askum parish (id. number Raä 650). The cup-marks were situated on a small rock outcrop dominated by a large boulder. The boulder was encompassed by a paving that was clearly visible even before starting the excavation. The paving was presumed to be a grave and one of the reasons for the excavation was to study a potential relation between rock art and graves. The cup-marks were spread out over the rock-outcrop forming five small clusters. The paving consisted partly of fire-cracked stones. The excavation yielded almost two kilos of flint flakes, including a few burnt flakes, which is a considerable amount regarding the limited area that was excavated – approximately six square metres. Some of the flakes could be conjoined which shows us that flint knapping was executed on the site. Only a small number of the flakes were artefacts in terms of tools. In addition to the flint material, dressed quartz, slag, two fragmentary grinding stones, pottery sherds and burnt clay was found (Bengtsson and Nordell 1999). No bones were found, either human or animal, a fact that could indicate that the paving was not constructed for funeral purposes, but when we consider that a quarter of the paving was left intact there is still a possibility that a vessel with burnt bones could be found there.

Back to Tanum

In 2001 the project returned to Tanum parish. Two panels about one km apart were chosen for investigation. The first one (id. number Raä 232) is situated rather high up in the terrain, while normally the rock art is found in the immediate transitional zone between rock and fields. The motifs consist of four ship images, three cup-marks and a ladder-like image connected to the cup-marks. There was no area in front of or on

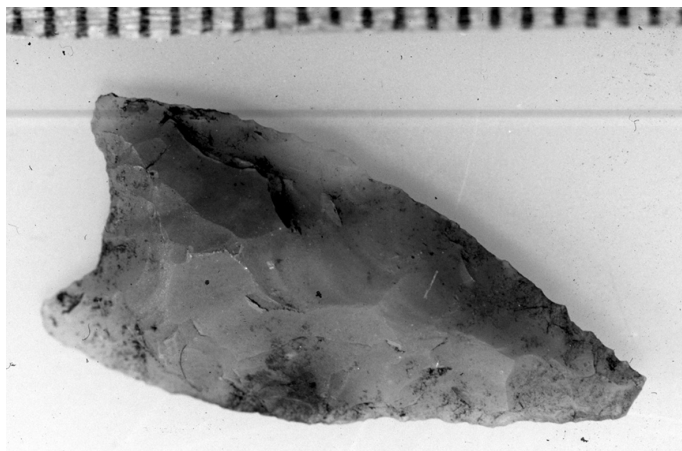


Figure 7.2: Arrowhead from site 232.

the sides of the carving that was suitable for excavation. The reason for investigating this panel was mainly that the ships were of a very early dating, *i.e.* Montelius period I or II (see Kaul 1998), and the excavation aimed at finding artefacts or carbon so that a relationship between the motifs and the material remains could be established. Above the panel a paving that partly appeared to be man-made and partly consisted of natural rubble stones was observed. This paving was excavated. The result was sparse but important. Only three objects were found: an arrowhead made of flint (Figure 7.2), a preparatory work for another one and a stone the size of a clenched fist with a *c.* 4 cm long line, possibly a vulviform, pecked into it. The arrowhead can most likely be dated to the Late Neolithic or Early Bronze Age. It seems possible that there was a close relationship between the deposited items and the motifs of the carving. Unfortunately no charcoal was found that could strengthen this hypothesis.

The panel is normally overrun with water which is a common feature of rock art in Bohuslän and the excavation of the man-made part of the paving revealed that it had been constructed in a way that it was possible to control the water flow (Bengtsson 2004, Bengtsson *et al.* 2005).

The second site that was excavated in 2001 is located on the farm Kyrkoryk in Tanum parish (id. number Raä 336). The site has a panoramic view of the Tanum plain. The result of the excavation was one hearth, dated to Late Bronze Age, 800–630 BC (2660±40 BP). No other objects or artefacts were found, apart from a big lump of flint that might have been deposited there either in a natural way or by humans. The hearth was situated right in front of and below the panel.

The sites in Tossene

In 2002 the project worked in Tossene parish on the Sote peninsula. The chosen sites are situated on the farm Torp (id. Number Raä 446:2–3). The motifs are ships, cup-

marks and humans (446:2) as well as deep cup-marks and grooves (446:3). The dating of the ships is problematic but Late Bronze Age and Early Iron Age seems to be a reasonable suggestion, although site 446:3 may well be earlier (Bengtsson 2004, 61–84). The distance between the two panels is only one metre and it was an administrative error to assign them separate numbers. The site was discovered in 1998 as a result of a survey and documentation project carried out by Vitlycke museum. Already at the time of the discovery it was noted that parts of the carving were covered by thick soil containing pottery sherds and burnt clay, so the decision to excavate the site was not difficult to make.

The panel is situated on a sloping rock outcrop facing west towards Tossene church, about one kilometre distant. The plain encompassing the church area is extremely rich in prehistoric monuments, mainly rock art. The two sites are located on two rock-surfaces separated by a depression in the rock. The depression was filled up with stones of varying sizes and many of them were fire-cracked. Towards the bottom the depression turned into a crack. The rock is divided by several cracks of varying depths and widths. A well preserved paving was found in front of the panel. The paving was constructed in two layers, the lower less dense. Under the paving pottery sherds, a rubber stone, burnt clay and flint flakes were found. The paving was radiocarbon dated to 80 BC –110 AD (1935±45 BP).

Beside the carving and partly covering it was a heap of mostly fire-cracked stones, mixed with soil. The area with burnt stones was 25 square metres and it was at maximum 0.5 m thick. In this area a great amount of burnt clay and pottery was found. The number of pottery vessels deposited can be estimated to approx. 50. Most of the pottery however had probably been brought to the spot in the shape of sherds, not as whole vessels. Several unburnt hammer stones were deposited among the fire-cracked stones, and several kilos of flint flakes were found, of which many flakes were burnt, as well as great amounts of quartz and quartzite waste. A relatively large number of burnt bones originating from red deer (*Cervus Elaphus*) were also found.

The most intriguing item found was a small mallet of stone, only seven centimetres in length (Figure 7.3). Obviously it's a miniature of the more normal-sized mallets of this type that are frequently found all over Scandinavia and elsewhere. They are normally considered to be related to the megalithic tradition but are also actually found in Iron Age contexts and in connection with metallurgy (Janzon 1984, for typology see Indreko 1956).

Another puzzling category of items found in the construction was *c.* 200 small pellets of burnt clay, only approx. 10 mm in diameter. Similar pellets have previously been found in various contexts in West Sweden. Since the pellets are found in ritual as well as domestic contexts it is difficult to have an opinion of their meaning and function (Persson 2005, 57–8).

Seven radiocarbon samples reveal that the construction was created during the Early Bronze Age and was in continuous use for approx. 2000 years (1220–920 BC,



Figure 7.3: Miniature mallet from site 446.

2910±50 BP), (1120–890 BC, 2835±45 BP), (1080–840 BP, 2825±45 BP), (210–30 BC, 2135±40 BP), (430–640 BC, 1525±45 BP). The oldest dating in the construction comes from barley, *Hordeum Vulgare*, (1540–1400 BC, 2630±40 BP). Another barley grain, *Hordeum Nudum*, was dated to the Late Bronze Age (860–760 BC, 2630±40 BP). An oat grain, *Avena Sativa*, was dated to 550–200 BC (2355±55 BP). It seems obvious that the construction was built in at least two phases to judge from the layers.

The carved surface was framed by some cracks, up to a half metre in depth and width. The cracks were excavated as well. Three of them were filled up with fire-cracked stone mixed with soil. The cracks yielded pottery sherds, flint flakes – of which some could be refitted – quartz and quartzite waste and the usual burnt clay. Some of the flint flakes had been wedged into the narrow bottom of the cracks. In one case the layer with objects was sealed with hard clay.

Further excavation during 2006 showed that also a small plateau above the carvings issued a number of significant finds, among them a second mallet, somewhat larger than the first find. Evidence of constructions, probably post-holes, was found. These post-holes might be evidence of a small house, or posts serving some other function. They could, for instance, be remains of wooden images of gods. Between two rocks a concentration of burnt bones were found. These have not yet been analysed. This construction was difficult to excavate since it contained a great number of roots left by ewe trees that once grew in this locale. Excavation of the plateau can therefore not be finalized until the year 2007. Hopefully, we will then be able to establish whether a house was erected here or if the post-holes have had another function.

On the same plateau there is a row of largish boulders that seems to form a kind of enclosure between the rock surface with the plateau and the surrounding area. The bone deposit mentioned above was found between two of the boulders. The distance



Fig 7.4: Hearth by the rock art panels.

between the boulders varies between a few decimetres to a metre or more. At least one boulder is positioned on top of the cultural layer and was therefore not brought there by the inland-ice. One boulder is of pure quartz, a type of rock which possesses strong ritualistic connotation. Further study may perhaps prove if the row of boulders makes up a fence which can be tied to the carving site or if it has had another function.

Yet another carving is located twenty metres north-east of carving 446 and this one has identification number 63. The site consists of a number of smaller carved surfaces. An investigation of the space between two of these produced a very interesting result. Right between the two carved surfaces, a hearth was found located 1 m from one and 1.5 m from the other (Figure 7.4). The hearth proved to be located directly on the rock surface and had caused the characteristic type of damage mentioned above. The hearth has yet to be dated but there is no doubt it is connected with the carvings. Two more hearths were located within a few metres from the first. They are also yet to be dated.

Besides the hearths, both flint and ceramics were found but also a completely new type of find as well: a piece of rippled sandstone which is fossilized beach sand, and you can clearly see the impressions made by waves. The colour is usually red. They are also occasionally found in graves. The peculiar shape of this rock has drawn attention and a high degree of importance been attached to it.

About 30 metres from the carving site, a dwelling has earlier been found and registered but not dated. In an effort to establish a relationship between the carving

and the dwelling site an investigation was done, and the result shows unequivocally that the two are contemporary.

In light of the results and finds made during the course of the Tanum project it stands clear that the excavation and investigation of the carving 446 in Tossene is the most successful investigation of its kind so far and has propelled rock-art research many steps forward.

Back to 2004

In 2004 a monumental carving at Lökeberg in Foss parish was investigated (id. number Raä 6) (see also Coles and Bengtsson 1994, 71). The site is one of the larger in Bohuslän and the expectations were high. The carved surfaces extend for more than 30 metres east to west and contain a large number of images. An extensive area in front of the central part of the carving was cleared with the help of an excavator. Trenches were dug out some 20 metres from the panel in order to find postholes, hearths and the like. No prehistoric remains were found. On the panel itself a paving was found right above and slightly west of the carvings and in the other end of the rock, two long cracks – up to seven metres long and up to a half metre wide and deep – were discovered. The cracks were filled up with stones, a few of them fire-cracked. The paving and the cracks were excavated. The result was, compared with the previous investigations, meagre; approximately 5 kg of flint flakes and about the same amount of quartz and quartzite waste were found. It is striking that no pottery or burnt clay was to be found, nor any artefacts, slag etc. The only possible artefact was a demolished hammer stone that was found in one of the cracks. In summary, this most monumental rock art panel excavated so far was the poorest with regards to prehistoric material. This fact calls for an explanation. The sites 336 and 232 in Tanum yielded a hearth and an arrowhead respectively, which must be regarded as very meagre compared with the rest of the excavated sites. The common denominator with the Lökeberg site is that the sea during the Bronze Age was in the vicinity of the panels (in contrast to the other excavated sites). A future task for the *Tanum project* will be to study these conditions in order to find if it is just a coincidence or if it forms a pattern, i.e. that terrestrial sites have been used in a different way compared with more maritime sites.

Discussion

We have now, on a very superficial level, given an account for the investigations performed so far by the *Tanum project*. This rather technical survey is necessary in order to give the reader a background to the research, particularly since it is the first time the results are published in any other language than Swedish. We will now turn to a discussion of the excavations.

The first observation is that depositions, more or less extensive, have been made close to the panels, thus turning the site into an arena for sacrifices and offerings. We

cannot say whether it is the art that has attracted the depositions or vice versa. In one case (Tossene 446:2), the heap of fire-cracked stones was probably constructed prior to the images since the latter most likely can be given a rather late dating. This cannot, however, be said about the deep cup-marks and the grooves on 446:3 only one metre distant from 446:2. On the contrary I would suggest a very early dating in their case, perhaps Neolithic, since grooving is a typical feature to be found on the capstones of the Neolithic megaliths. In most other cases radiocarbon datings or typology of the artefacts seem to correspond well to the estimated dating of the carvings. We end up with an understanding of the importance of the place itself. The rock art in Bohuslän is not randomly distributed in the landscape. It is usually found on rocks in the liminal zone between the mountains and the flat fields or, particularly cup-marks, on rock outcrops in the fields. They are frequently flooded with water. The art is closely connected to water, either to wetlands that today are arable fields due to draining, or creeks, small rivers and the like. In most cases the distance between the art and the Bronze Age wetlands is less than 100 metres (Bengtsson 2004, 51). During the Bronze Age some of the sites that today appear on rock outcrops out in the fields were then more or less surrounded by wetlands. Recent research has also shown that many rock art panels were situated in direct connection to the Bronze Age seashore, approx. 15–17 metres above the present sea level, and sometimes right at the water's edge (Ling 2004, 121–40). The place chosen corresponds to the 'ritual code' that governed where and where not rock art was to be made. The sacred nature of the place is emphasised by the images and the sacrifices.

If water was an important feature when the place for the rock art was chosen, the hearths and the fire-cracked stone tell us that fire was equally important for the use of a certain site. In addition we can see that many rock art sites are damaged by fire, most likely in prehistoric times. Fire has had a central role in many, perhaps most, religious and ritual manifestations in prehistory. Often the fires are associated with a sanctuary or a shrine, *e.g.* the vestal fire in Rome that was kept burning all year. On the first of March the fire was extinguished, then lit again the same day by ritual fire making with a bow and a drill (Ogilvie 1994, 90). Vesta herself was represented by the fire, and had, in contrast to most other Gods and Goddesses in the Roman pantheon, no image in the temple (Dumézil 1970, 312, Ringgren and Ström 1964, 332). In Vedic contexts the fire has been used to demarcate and consecrate shrines (Dumézil 1970, 312) and the fire has a central role in the Rig Veda, where numerous hymns and songs are dedicated to Agni; the fire (Aurobindo 1952). In Mycenaean contexts the fire, together with the altar, played an important role in the libation feasts (Vermeule 1972, 283). The same can be said about the Cypriot cult houses (Webb 1999, 166) and the Minoan peak sanctuaries. The latter is interesting also for the practise of burning small clay sculptures as part of the ceremonies. In Scandinavia and Germany we find systems of hearths, sometimes several hundred, organised in rows and clusters (Thörn 1993, 1994, 1996). Examples of ritual fires are manifold but I think I have made my

Panel site/ parish	F	BF	P	C	BC	H	FS	Q	A	BB	SL	Remarks
Raä 650 Askum	x	x	x	x	x		x	x	x		x	Flint flakes could be refitted
Raä 232 Tanum	x								x			Arrowhead
Raä 336 Tanum	x			x		x						
Raä 897 Tanum	x	x	x	x	x	x	x	x	x	x	x	Crucible, bones from pig
Raä 1371 Tanum	x	x	x	x	x		x		x	x		Flint flakes could be refitted
Raä 6 Foss	X											
Raä 446 Tossene	x	x	x	x	x	x	x	x	x	x	x	Hammer stones, bones from red deer

Figure 7.5: Compilation of the finds from the sites excavated in the Tanum project. Key: F = flint and/or quartz, BF = burnt flint, P = pottery, C = coal, BC = burnt clay, H = hearth, FS = fire-cracked stones, Q = quern, A = artefact, BB = burnt bones, SL = slag.

point. We can also remember that we still light ritual fires in many areas. In Sweden the bonfires lit on the first of May obviously are a relict from prehistory.

So why were there fires on or beside rock art panels? Above we mentioned the suggestion that the fires were made in order to make the images more visible and to give them 'life' as they with the play with light and shadows appear to be moving. This might be a plausible explanation when the damages or fires are found in relationship to major panels with many images, but what about a site with just a few cup-marks or lines? I believe this profane explanation must be ruled out and a more plausible explanation must be that the fires were a part of a purification ritual, maybe in connection with the inauguration of the site, in the same way that in some cases the ground was purified with fire before the walls of ritual enclosures and hillforts was constructed (Olausson 1995, 206). Fire has also been employed in order to purify the ground before the construction of Bronze Age mounds (Lundborg 1972, 38).

Another feature of particular interest is the cracks. Several rock art excavations have revealed that cracks in the rock have been used for deposition of various items. In the case of Tossene 446 the bottom of several of the deepest cracks was utilised for this purpose. Pottery sherds, flint flakes, quartz and burnt clay were placed in the cracks and subsequently sealed with clay. The same phenomenon is observed as far away as the Tamgali Valley in Kazakhstan.

Various kinds of offerings are there, (by a rock art panel, the authors note) such as animals, or other goods (objects, food). One intriguing feature of this worship is the squeezing of the offerings into the rock cracks, which it would be difficult to explain

exclusively by the wish to prolong the life of these offerings by forcing them into the rock rather than simply laying them on the ground. Items placed into such cracks include arrows, wooden implements for starting a fire, and sticks which may have served in the past to suspend other ritual objects” (Rozwadowski 2001, 75).

Cracks are important not only in rock art contexts but also for graves. A majority of the Bronze Age cairns in Bohuslän are built on top of cracks or depressions in the rock. In many cases an impressive amount of labour has been used to seal the part of the cracks that is not covered by the cairn itself. This observation is also valid for the graves in the shape of flat pavements that are frequently found in Bohuslän. Normally a crack has been used to hold the urn; subsequently the crack has been covered with a layer of stones. These kinds of graves normally date to the Late Bronze Age and Early Iron Age.

In the Tamgali case Rozwadowski (2001, 65–86) suggest that the cracks have been used by shamans as a “metaphor of trance – formation”. Whether this is the case in Bohuslän can be debated but should by no means be discarded, as the Norse mythology displays clear shamanistic influences (Hedeager 1997, Solli 1999, 341–50). These common rituals and ceremonies were attended by specialists; whether we call them shamans, priests or druids is just a question of how we define their role. The domestic cult, it seems, was handled on a family level.

It is obvious that the cracks played an important role in the rituals and sacrifices that took place at many rock art sites, probably as a way to get in contact with and mediate offerings to subterranean powers.

There is yet another aspect of the rock art that needs to be addressed, namely the ritual feasting. The importance of feasting has been emphasised by several scholars (*e.g.* Brunaux 1988, Kristiansen 1998, Hayden 2001). Hayden (2001, 23–64) has suggested a number of features that are connected to feasting and can be used to classify and detect archaeological remains of such events. Among these are “food, preparation vessels, serving vessels, food-preparation facilities, special food-disposal features, feasting facilities, special locations, paraphernalia for public rituals, pictorial and written records of feasts, food storage facilities etc.” If we use site 446 at Torp in Tossene as an example, we find that most of Hayden’s features are represented there. The food and the special food-disposal features are represented by the grains and the red deer bones, probably the remnants of a deer sacrifice, the preparation and serving vessels as well as the food storage facilities are represented by the approx. 50 pottery vessels found on the site and by the rubber stone. The special location and the paraphernalia for public rituals are represented by the site itself and the images; among the latter we find anthropomorphs with possible dancing masks that could represent the ‘pictorial and written records’ (Figure 7.6).

Large amounts of reddish burnt clay were found on the site. The clay could have been used to paint the carvings; almost all excavated rock art sites have yielded burnt clay, but it can also be the remnants of a construction *e.g.* an altar or a platform for



Figure 7.6: Human with bird mask from site 446. The figure has been enhanced with burnt clay on site for experimental purpose.

sacrifices or other ritual purposes. Some pieces of clay seem to have had a spherical form and may be sacrificed loom weights or small figurines (see the example from Cyprus above).

If we should try to visualise the scenario on the site when it was in use I think we, in addition to what we have seen above, would find the images being painted (not necessarily all of them, but the ones needed in the contemporary narratives). We cannot exclude that the bodies of the participants were painted as well. We also would find sacrificed food and beverages, various wooden objects and tools, strips of fabric hanging from sticks or bushes (for the latter see Hygen and Rogozhinsky 2004), plaits of human hair and perhaps flowers. We cannot expect that these kinds of objects should be preserved, with the exception of pottery etc. but the archaeological evidence clearly points in the direction that we must regard most rock art sites as sanctuaries.

Some final remarks

The rock art sites excavated within the *Tanum project* display all essential features that are needed to allow us to regard the sites as ritual arenas for sacrifices and ceremonies. Water is present in the form of wetlands, sea, meres, creeks or even over-seeping the

art itself. Fire is present in the shape of hearths, slag, burnt clay or fire-cracked stones. Earth is present in the shape of the cracks that lead to the subterranean worlds. The rock art sites are thus forming a micro cosmos – a reflection of the ‘real’ cosmos and the notions connected therewith. The importance of the site is reinforced by the images, by sacrifices and by the ritual feasting. Even if the feasting took place somewhere else, the debris of it was deposited at the rock art site. Future research within the frames of the *Tanum project* will no doubt give more details of the nature of these rituals.

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Perspectives in European Rock Art

The archaeology of glance

Felipe Criado Boado

In this paper I attempt to study the history of the glance and its representation in European rock art. With a departure from the postulates of structuralism, I defend the existence of compatibility between the codes that govern social structure and the form of production for material objects. In this case I find agreements between social and cultural systems and the form in which space is represented in the rock art.

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The archaeological record

Galician rock art is principally comprised of cup-marks, circular combinations and representations of quadrupeds and weapons, which are mainly concentrated in the area known as the ‘Rias Baixas’ (Low Estuaries), though with some extensions towards the interior of the provinces of Lugo and Ourense, as well as towards the ‘Rias Altas’ (High Estuaries) and the north of Portugal – although in these places it has a much lower density (Santos and Criado 2000).

The chronology of the rock art is very wide-ranging. From carvings with cup-marks as their only motif, which appear associated with Neolithic tumuli (Filgueiras and Rodríguez 1994, Villoch 1995), to carvings in the interior and exterior of Iron Age hillforts with circles and squares with radii, serpents and footprints. However, without doubt the most widely published type of rock art is that which belongs to the Bronze Age and the First Iron Age *i.e.* 2,500–500 BC (Santos 2005).

In the Bronze Age two basic types of rock art are seen on the panels; geometric motifs: cup-marks, circular combinations (concentric circles, circles with cup-marks inside them, etcetera), labyrinths, pseudo labyrinths and spirals. There are also figurative motifs: quadrupeds (deer, horses, riding scenes and footprints), anthropomorphs and

weapons (swords, daggers and shields). Some easily identifiable scenes are known, such as representations of scenes from hunting and warfare, and nowhere are there representations of activities related to agriculture or other types of domestic activity. It is an art form which appears to glorify the values of a warlike society. The themes identified in Galician-Atlantic rock art are basically the same as the rock-art themes found in the Alps and in Scandinavia. Furthermore, they share a similar chronology.

The carvings which belong to the Galician Late Prehistory appear to be part of the group of western European rock art, which in the case of Galicia was being made during the appearance of the first agricultural cultures and until the fully sedentary and hierarchical societies of the Second Iron Age. They bear a particular similarity to those found in Carschenne (Switzerland) and the British Isles.

Elsewhere, the knowledge about the rock art of this period has increased significantly in recent years thanks to studies carried out within the framework of large-scale studies evaluating and correcting the archaeological impact in public works. These large-scale projects have made it possible to complete the empirical record via the exhaustive examination of large areas, and to include data and other aspects which would not otherwise have been accessible – particularly those referring to the localisation and systematic study of inhabited settlements from the same period. It has thus been possible to carry out a study within their socio-cultural framework – one that has been helped by investigations into rock art by Santos (1996, 1998, 2004), ceramic material culture from the Bronze Age by Prieto (1999) and the settlement-patterns, types of landscape and society carried out by Méndez (1994). The systematic study carried out in parallel for the three themes is one of the basic foundations of the investigation programme of the Bronze Age in the north-west of the Iberian Peninsula conducted by the Laboratory of Archaeology and Cultural Forms of the University of Santiago de Compostela.

Theoretical principles

This research is based on the following theoretical principle: all social action (in general) is governed by certain systems of representing space which, in the framework of one type of culture, are either reduced to the same fundamental code of which there would be successive versions, or in any case would be actively interrelated (Criado 1997). If this principle appears exaggerated, it is at least possible to recognise another principle which is really subsidiary to the previous, according to which these systems of spatial representation govern all humanity's activities of a spatial character and nature.

These systems of spatial representation do not appear without reason, but are instead determined by the pattern of rationality of the socio-cultural formation within which they operate. This may be for many reasons, but particularly because all societies need to have a method and model for conceptualising their position in the world and their relationship with nature. This is primarily what systems of spatial representation do. As Wigley (1993, 160) said: “[...] a space is never independent from the systems of representation which monitor it.” Both material culture and social landscape, like

any other product-effect of social practices, are the objectification of being and social rationality, and as social products they represent or reproduce the model of configuration of time-space in this context.

The aim of this study is therefore to analyse these spaces of representation and hopefully thus gain an understanding of the representation of space. This appears even more interesting and relevant, since were the project to be even moderately successful, one could apply its consequences in a broader spectrum and attempt to interpret other areas of activity and experience of archaeological societies and would thus modestly contribute to the better understanding of the position of the world in some societies.

As discussed in another paper (Prieto *et al.* 2003), style, considered according to Prieto (1998) who defined it as the “materialisation (or formalisation) of the system of power”, is regularity (Criado 1999) in ways of life. This implies recognising that at least from a theoretical point of view, the unvarying features of a particular style of material culture (particular expressive resources, and above all rules of combination of these resources and their articulation within the social environment) would have to reappear in other types of material products, in the use of the land, in ways of modifying the surroundings, in strategies of construction of the landscape, and would thus establish intra-cultural regularities which would make it possible (although perhaps unconsciously so) for the members of the same group to operate in a satisfactory way within their environment, and to conjugate what have been referred to as a *lifestyle* in another publication (Prieto *et al.* 2003).

Applying my initial hypothesis, the spatial model which I have defined may well have been reproduced (either directly or inverted) in other levels of spatial articulation. The most obvious of these would be the organisation of the carved panel.

In order to have a starting point for verifying this hypothesis, I will examine a particularly complex carving: the Pedra das Ferraduras, which translated means the “Horseshoe Stone” in Fentáns (Cotobade, Pontevedra); I will refer to this as the Caneda region.

The carvings contain a line of animals which, accompanied by hunters and presumed representations of idols, are directed upwards towards one of the sides of the rock; a notable feature is that starting from one point, the line of animals is substituted for a line of deer-tracks which appears to proceed from a circular combination. Some archaeologists have interpreted the idols as possible representations of cylinder or plaque idols characteristic of Chalcolithic and Early Bronze Age periods (García and Peña 1980).

In reality, the panel could be divided into two sections: the first has naturalistic motifs and another flatter, more horizontal section above it with geometrical and abstract carvings; the second section is better viewed from above, being a horizontal view and the first is preferably seen head-on, in perspective. As we shall see later on, these scenes could in some way be analogous.

I believe, independently of this, that there are other possible meanings associated with this carving; in it there are schematic representations of the relief of the land in which it is situated, as well as the social organisation of space.

The articulation of the panel

I will now concentrate on the analysis of the organisation of the rock art panels, their internal articulation and the relationship between the motifs themselves and their micro topography. Given the specific nature of the object under study (the space of the panel), the analysis should be supported by instruments and procedures which are adapted to the formal description of rock art.

A descriptive system has been developed for the carved panels which uses a specific system of notation to carry out a formal analysis (Santos 1998). A capital letter is assigned to each of the types of motif represented. In turn, to indicate the distribution of the motifs on the panel and the relationship between them, I use the following conventions. I place to the left the motif which is in the upper area, and to the right that which is found at the bottom. Two letters simply joined together indicate that the motif represented by a letter to the left is on top of that represented to the right. If they are joined by a hyphen, it means that both motifs are at the same height on the panel.

Representation: form, scheme and system

When analyzing the relative position on the panel of the motifs which appear in Galician rock art, I find a regular pattern of distribution whose complete series would be: EAFBCD, or riding (E)/ concentric circles (A)/ weapons (F)/ deer (B)/ quadrupeds (C)/ anthropomorphs (D).

Obviously, these motifs do not appear all together in any carving. Only the most complex have combinations of more than four different motifs. In any case, what this scheme reflects is the fact that regardless of the combination of motifs used, in every case the relative situation between them is in general the same.

The most frequent and simple scheme is AB, or panels with circular motifs in the upper part with representations of deer below them. There are practically no AC associations; quadrupeds without horns (perhaps does or fawns) share the panel with circles only if there is a stag above them, forming an ABC association which is very frequent.

The analysis of the different spatial combinations on the panels makes it possible to isolate the rules and principles which regulated the formal composition and, although only partially (as a 'weak' interpretation), we may start to get an idea of the meaning being represented.

The *rules* which appear to regulate the specific objectification of the generic model would be:

- Circles are carved in the highest parts of the panel or at the same height as the deer, and are above or at the same height as other motifs;
- The previous rule only has one exception: riding scenes can be placed above circular combinations;
- Stags are always placed above or at the same height as other quadrupeds;
- For weapons, their relative position is not as rigid as for the other motifs, although they clearly tend to occupy a high position on the panel;
- Finally, all of these motifs are placed above human figures.

These rules are not the case in 100 per cent of the carvings, although they are so in the vast majority of them. Using this as a background, these rules could imply a series of principles or formal regularities which, through the use of spatial superimposition on the panel, indicate two quite clear oppositions which only admit one exception: an initial opposition between abstraction/naturalism (*i.e.* the naturalist motifs are usually below and the abstract ones are above them); and another between nature/culture (*i.e.*, the motifs which refer to nature such as deer, wild animals and circles, which possibly represent physical spaces, are usually placed over human figures). The only exceptions to these dichotomised rules are representations, quite exceptional in Galician rock art, in which there are scenes of violence or human devices, as in these cases the scenes are situated on top, thus creating an opposition between domestication/nature whose regularity appears to indicate that it is also a fixed rule.

These oppositions are constructed or objectified using different expressive resources. The first and most obvious is the spatial imposition in the panel, which makes it possible to formalise an opposition between high and low. Another expressive resource is the opposition between the representation of abstract and natural motifs. A final resource is the use of references which represent complete objects/metonymical references (one part of something representing the whole). Here I consider hoof-marks, which represent the animal, but also representations of weapons, which are connected with humans, armed groups and the community in general.

The combination of these expressive resources together with the oppositions previously identified makes it possible to be more precise. I may observe that when cultural elements are placed above natural elements, these nearly always represent dominance, power or violence: horse-riding or exhibiting weapons; hunting however always appears below. Furthermore, the expressive resource used to signify cultural elements is such that it always inverts the character of that which is used to signify a natural element; if a natural element is represented in an abstract manner (for example with concentric circles), then cultural elements are represented in a naturalist way, and vice versa: if natural elements are represented with natural motifs, then cultural elements are represented by a metonym.

It is now possible to reorganise the formal scheme considering the rules, oppositions, expressive resources and exceptions which I have just defined. These observations allow me to construct a more complex and detailed formal scheme, which attempts to unify

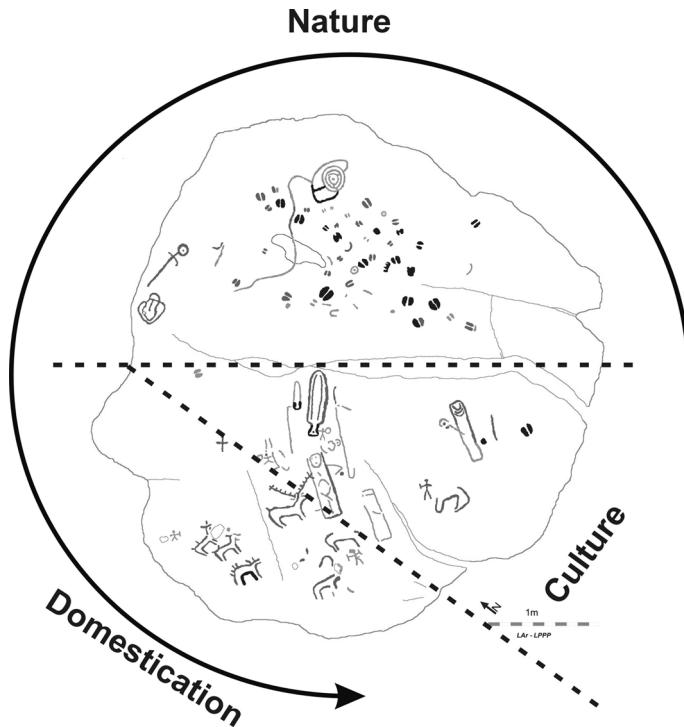


Figure 8.1: The figure shows the basic formal scheme of Galician rock art. The direction for reading is indicated by the circular arrow.

the relative position on the panel with the type of motif represented, the character of this representation and the principle rules of opposition. The basic formal scheme for Galician rock art would be the following (Figure 8.1):

If the panels and their representations are read in the direction indicated by the positions up-down and left-right, we can see that the panels signify a regression of culture to nature, which is initially a contrast between nature and culture. This is formalised with two expressive resources: through comparison between a representation of the wild and the cultural (in the case of A above F and BCD), and with the comparison of abstract and natural representations (in the case of AB and AF). Exceptionally, however, the system of representation is completed with scenes of domestication and violence, with the significance of the comparison between culture and nature.

Space: system, reading and meaning

I will go on to abandon the merely formal description, in order to propose an interpretative reading of the formal regularities. As we shall see, this reading does not use symbols, symbolic meanings and significance which comes from the exterior of the

representation, but instead simply tries to directly 'read' the relationships which appear within the formal correspondences and between the represented motifs. This in any case implies a subjective operation, since it is not possible to actually and objectively 'read' the record.

Obviously, I cannot avoid a certain trans-cultural propensity in my reading, apparent in assumptions as 'risky' as suspecting that the scenes of mastery, independent of the specific symbolic meaning that the original social context may have had, refer to contents which allude to the symbolic/practical imposition of culture over nature. I believe, however, that this simplification is legitimised by the obvious fact in symbolic anthropology that there are certain prototypes and images of certain trans-cultural value, as have been documented through the opportune recording of these forms in different contexts; these images should not be confused with the Jungian archetypes since they are more similar to the universal archetypes of M. Douglas. A suitable example of these kinds of universal elements or prototypical images is the act of an injury caused by a sharp weapon which is dripping with blood – which, trans-culturally, is a metaphorical image for the sexual act in its different guises.

When the viewer scans a rock-art panel from bottom to top, he sees nature opening up to human action; he then discovers a naturalist image of wild nature; above appears nature in the form of abstract representation, watched over by human symbolic ability; finally he will recognise (although only on certain occasions) the demonstrations of human mastery over nature.

In order to complete this analysis I will return to the panel of the Pedra das Ferraduras in the Caneda region, armed with the new perspective discussed above.

We will now see that the system of representation which I summarised previously is not, as in the case of the Pedra das Ferraduras, only a representative syntax, but that it gives the actual matrix or organisational model of the panel. This simplification shows us that the micro-typography of the rock precisely reproduces the spatial articulation model from the different motifs among themselves.

The panel is situated as an ascending line which runs from the lower left-hand corner towards the right, and half way up breaks off towards the left. With the distribution of motifs and relief of the rock crossing in the middle, we see that the natural motifs are in the lower half, with the upper half housing the abstract motifs; in the same way the lower half contains human motifs, with natural motifs in the upper. From bottom to top along the ascending line we may see hunters, deer, idols and weapons, then a split, and then footprints and circles. This movement is also a successive progression from the cultural to the wild (fully represented), to aggression (represented metonymically), once again to culture, then moving after the split again to the wild (first represented metonymically), finishing again with the wild (this time represented symbolically).

The features of this system of expression (which is at once a basic formal mode, a compositional scheme, meaning of perspective, and definitively a system of representing

space and other elements), are generally used in Galician rock art. They appear in many examples, both simple and complex panels.

As we will see further on, after having considered other areas of analysis, this vertical system, the way of looking vertically as it implies, and the technology of spatial representation based on verticality which synthesises it, contain a particular and explicit cultural meaning, which refer to a vertical and hierarchical society.

It is necessary to be more precise, however. The viewing direction of rock art is not so much vertical as oblique. As may be seen in the case of the Pedra das Ferraduras, the main direction of the composition is in a diagonal line. All panels with more than one motif are laid out obliquely, moving away from the viewer. This detail gives the representation a sense of grace, agility and dynamism. In fact, as discovered by Vázquez Rozas, the way of representing perspective in rock art consists of placing the figures slightly at an angle to the ground, which allows our eyes to slide over them as if they were moving (Vázquez 1997). In the few cases where it is possible to see perspective applied to an animal, it may be seen that this is based on a view which moves away from us, or at other times towards us. This type of perspective and composition in reality prolongs the sense of vision which a viewer on foot gives to a carved rock on the ground, which in fact forms an obtuse angle with the support of the panel. But at the same time this diagonal position synthesises visual movement, partly horizontal and partly vertical, with which the viewer has to comprehend the carved panel (Figure 8.2).

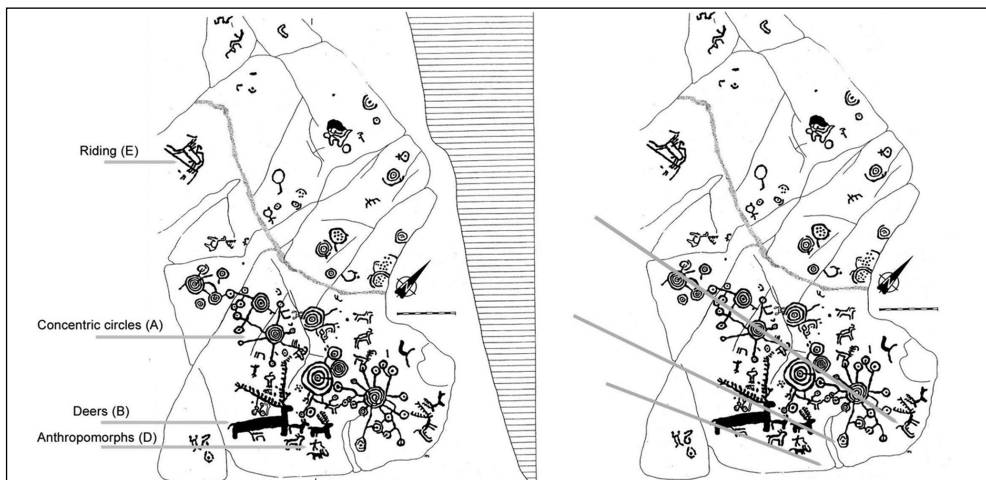


Figure 8.2: Composition of the rock carving of Laxe das Cruces (Tourón-Pontevedra). Left, vertical distribution of the motifs. Right, diagonal disposition.

Rocks and panels

Applying my initial hypothesis, the spatial model which I have defined may well have been reproduced (either directly or inverted) in other levels of spatial articulation. The most obvious of these would be the organisation of the carved panel. In order to verify this hypothesis, I will examine again the rock of Pedra das Ferraduras.

In reality, the panel is divided into two sections: the first has natural motifs and another flatter and more horizontal section above it has geometrical and abstract carvings; the second section is best viewed from above, being horizontal and the first is better seen head-on. As I have already concluded these scenes could in some way be analogous.

I believe, independently of this, that there are other possible meanings associated with this carving; in it there are schematic representations of the relief of the land in which it is situated, as well as the social organisation of this space. In order to observe this, I shall start by describing the group of which it forms a part, which will serve to give an example with a specific case of the pattern of emplacement of the carvings which I described previously. Following the procedure which I previously defined and applied (Parcero *et al.* 1997), I will carry out a formal analysis of the physical space, which allows me to deconstruct its fundamental components into the following areas:

1. *The Valley.* Firstly I can identify the *steep slopes* by the River Lérez. The elements which impose steep slopes and very light soils limit their use to an area of woodland. Then we have the valley as such, with less abrupt relief, within which the areas given are concentrated to land use and settlement.
2. *The lateral slopes* of the hill range. These surround and enclose the previous area. They are steep and rugged slopes. It is the typical situation of hillside terrains (land for extensive use) which today have been repopulated or taken over by scrubland but which are of limited use.
3. *The flat areas on hillsides* in which water accumulates, leading either to peat bogs or marshes.
4. *The peaks of dividing ranges* and lines of hills which enclose the area. They are rocky regions, with very light soils, either of extensive or no use. In some places these peaks open up into high plains with an abundance of marshland.

The area of Caneda which contains rock art is found in area number 2. In Late Prehistory, the valley (number 1) was empty of population and covered by a dense forest. I can consider this area as a wild space.

Interestingly, this spatial model is the same as that represented in Pedra das Ferraduras. This carving is a symbolic representation of space, a scaled model of the landscape (Figure 8.3).

Yet what makes this analysis plausible is not so much the level of precision which the record makes possible to achieve, but the fact that examples of the same type are frequent in Galician rock art – although represented much more simply. It is an almost unvarying feature that the circular combinations appear in high, horizontal surfaces of

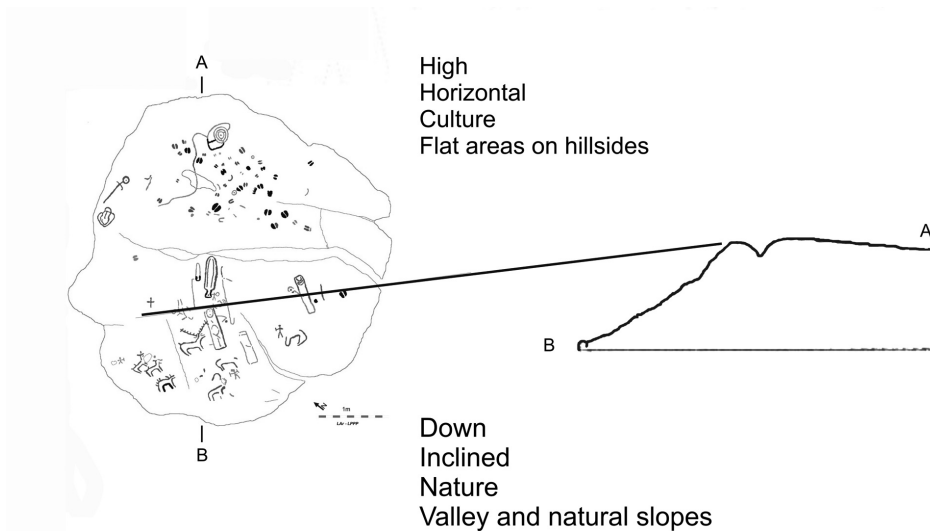


Figure 8.3: *Pedra das Ferraduras* as representation of the landscape. Swords are placed in the transition between culture (circles) and nature (stags).

the rock, whereas the animals occupy lower positions, generally on inclined surfaces which move towards them. This organisation is constant and even appears in the simplest carvings. The fact that it does so, being reduced to a circular combination with an animal, means that it is an organisational structure which, as such, should represent a more complex significant code.

This reading implies that it is necessary to consider the combination of circles as metaphorical representations of peat-bog areas, wetlands or small valleys. This does not appear to me as being a too risky interpretation considering the correspondences I have indicated. Another regular feature is given by the examples (infrequent but present) of combinations of circles carved on the inside of natural concave sections of the rock, which when it rain falls on it and creates a line of direct continuity between the motif and the water, between that which it refers and what it is referred to. In fact, the circular combination on the upper section of *Pedra das Ferraduras* has a furrow which joins it with a natural basin. I am not trying to say that circular combinations signify water. As they are symbols, things become more complicated. What we do believe is that there is a group of significant variation in which the concentric circles are connected, albeit roughly, to representations which extend the meaning of water; they are associated with water directly, they are found on the upper sections of the rock just like the wetlands, and the quadrupeds found on the carvings are moving towards them.

Therefore, by firstly analysing the situation of the carvings, and then the organisation of the panels and their correspondence with the surroundings, we may see how in all of the cases there is a basic way of organising space formed by points, lines and circles. I appreciate the fact that the carving represents the surroundings, that this becomes

social space by reproducing a model which is that of representation in rock carving, and that the rock in itself is an analogous representation of the surroundings, a small scale reproduction of physical space; its micro topography may be used as a support for metaphorical references, or even metonyms of the natural topography. But I should go even further. This is nothing more than a first model, specific and hypothetical.

This model is still not a real, rigorous and profound comprehension of the system of representation of space within and around Galician rock art. In reality, what I have just done is only a trivial approximation. Its most useful aspect is precisely in revealing that it is worthwhile to compare the pattern of emplacement of the carvings on the panel and the pattern of natural and cultural organisation in the physical landscape.

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The Spaces of Representation and the Domestication of Landscape in Rock Art Societies

Manuel Santos Estévez

Based on studies carried out in recent years, I may quite plausibly defend the fact that Galician rock carvings were the cultural operator of a strategy of appropriating physical space and its transformation into a social environment. In this article, geographical analyses on different levels are made in western Galicia. I will examine how rock art could have been used to construct local and supra-local territories in Late Prehistory articulating domestic and ritual sites.

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General distribution of Atlantic Galician rock art: the maritime factor

Since the very first studies on rock art in Galicia, several researchers have observed the concentration of engravings on the western coast and in its more immediate vicinity. Although the number of zones with engravings has increased remarkably since the 30s, we can still, in general terms, observe the same distribution. The Galician Atlantic Rock Art Style is located mainly in the region of Rias Baixas (low estuaries) and in the zones located less than 30 km away from the coast. Peculiarly, the few exceptions that do not follow this rule are small groups of carvings located close nearby the largest rivers that end at the western coast. These rivers are navigable with small oar boats. Observing the distribution of the rock art of Late Prehistory it seems that at least one of the factors that conditioned the location of the engravings was the accessibility to the coast and the navigation.

The coastal factor seems clear in rock art of Late Prehistory located in geographic areas like the British Islands and Scandinavia. It seems significant that in these three zones with a similar chronological frame (second half of third millennium and first millennium BC) panels with similar themes – geometric designs, (especially circular

designs), scenes related with hunting and warfare (and in the three cases its relation with the sea and navigation) – seem clear, especially in Scandinavia, where the predominant motifs are boats and the connection with the shore line seems clear (Ling 2005).

Recent studies of Seoane (2005) show how the visibility of the sea, possibly related to the marine transit, is an important factor for understanding the location of the rock art situated on the coast. The rock art is not located on the shore line, but in higher zones close to the coast, in the hills from which it is possible to see a large extension of the sea in the Galician western bays. And indeed, the most important concentrations of rock art located far from the coast, although less than a day walking (approx. 30 km), are located in transit key points. These sites are situated throughout a north-south route which has been used from the Neolithic – marked with the presence of numerous barrows – to Roman, Medieval and present times; but the rock art is not located all along the transit line, however, but is concentrated in those sites nearer the bays or at the points of the route from which it is easier to accede to the coast, as it is the case of Campo Lameiro.

This set of factors – the link with marine transits, iconographic similarities between the rock art of Galicia, British Islands and Scandinavia and their similar chronological frame-works – open up the possibility that in Late Prehistory there must have been contacts between the communities who carved rock art; and, the control of the key points of marine as well as terrestrial transits using rock engravings, can be related with the importance of the contacts between the communities of the second and first millennia BC. The rock art of Valcamonica is not related with marine routes, but its relation with terrestrial transit is evident. This rock art place is in one of the main passages across the Alps.

As some authors have already indicated (Ruíz-Gálvez 1998, Kristiansen and Larsson 2005), the control of the routes – especially the trade of metals and prestige goods – could constitute a key element for the development of the European societies in Late Prehistory, and the trade routes could have worked to transmit ideas and images (Fredell 2003).

But as we will see next, the rock art is also associated with the transits at a local level. In fact, the petroglyphs seem to have worked like devices capable of domesticating the landscape marking the movement, delimiting resources and territories, and providing the landscape with a ritual and symbolic dimension.

The situation of rock carvings: transit, catchments area and visibility

The carvings have a pattern of emplacement, which far from being a random distribution are found regularly throughout the territory and repeatedly connect them with spaces which have certain regularities. The two most frequent and apparently significant factors are their connection with transit points, and their association with small wetlands with natural pasture.

However, it is possible to identify two 'excesses' which would lead us to believe that landscape archaeology only deals with the fact that the archaeological phenomena being studied are related solely to wetlands and pathways. This apparent 'mania' does not make it possible to evaluate the importance and meaning of the numerous exceptions to these rules of transit lines and wetlands.

The problem, as usual, is a recalcitrant empiricism, an inability to examine subjects rationally, as a phenomenon, part or example of the most general and abstract principle. This is the case of the wetlands. In principle there is a congruent relationship between both phenomena. However, if one set out to look for these it is important to consider that they are neither present in all of Galicia nor are they evenly distributed throughout the region. This is a good example of the third factor, in which the presence of the bog, instead of being the decisive factor *a priori*, is an indicator and effect of a more important, hidden factor. The bogs really correspond to spaces which contain small hollows and valleys, generally where rivers begin their course – in high areas – with an enclosed type of relief that is often quite narrow.

The congruence between the situation of the carvings and the two previous factors was statistically verified in Bradley *et al.* (1994, 1995). It is also possible to verify this relationship by considering these references as a predictive model for the localisation of rock carvings; or, from another point of view, analysing the conditions of visibility of the carvings. However, the relationship with wetlands should not be considered as a direct indicator of the relationship with pastureland or hunting areas. I suggested that, in the same way as wet lands are also flat areas found within very steep regions, they could also have been places of social grouping (Santos 1998). Furthermore, I proposed that the presence of complex carvings with representations of weapons (which are not very frequent) next to these spaces, would indicate areas where warriors gathered and where exercises and ceremonies took place – which are normally associated with these kinds of occurrences.

Considering the situation of the carvings it is generally possible to acquire a total perception of the peat bog or transit zone with which it is associated. The carvings look out over a visual panorama, which contain within it a peat bog and/or a transit zone. Logically, this relationship is not always found; without anticipating issues that shall be dealt with later on, it can be said that when this type of relationship is not documented, it is because a more relevant factor or function is at work in the emplacement of the carvings.

I have observed other similar regularities but these are based not just on the visibility of the carved rocks, rather, where this visibility is considered alongside the visibility of the rock itself within its surroundings. (The difference between the concepts of visibility and 'visibilisation' is defined in Criado 1999, 33–4).

In some cases, when regarding the situation of the carving, it is possible to see how the element of the landscape with which the carving is associated fits within the same visual panorama.

Finally, it may also be seen that in the case of the large-scale panels of carvings, the visual angle necessary to fully view the panel also include the wetland with which the carving is associated.

I will now propose an initial interpretation of this type of emplacement, examining its relationship with the pattern of settlement, which was characterised in Criado *et al.* (2001).

The emplacement of communities: hollows, pastureland and mobility

The relationship between carvings and wetlands and pastureland may be related to the strategic importance of these areas in Late Prehistory, as the upkeep of a herd of cattle would have required a small degree of maintenance in these wetlands (Méndez 1991, 1994). Spaces of this type, accordingly, become areas which have to be controlled in order to benefit a group. Therefore, in the southwest of Galicia these are nearly always marked by concentrations of rock carvings around them. However, no remains of settlements from the period have been found in the same areas; this relationship appears to be exceptional.

Elsewhere, the exploitation of hilly areas by local populations through cutting and clearing imposes a cyclic rhythm for the exploitation of the land, implying the impossibility of permanent settlements; it has been suggested that the communities would have repeatedly returned to the same settlements, which would have been occupied for a period and were a type of settlement which, according to F. Méndez (1994), may be referred to as an area of accumulation of activity and material. This implies a pattern of settlement, which was stabilised in specific areas, to which the movement of these groups may well have been restricted.

This would be the significant context which initially gives rock art meaning: the dual and reiterative connection with movement and hollows/wetlands precisely carries out this dual practical-symbolic function.

Organisation of the cultural landscape

My proposal is based on the possibility that the differential distribution of carvings within the space of a station adopts a pattern according to which the most complex carvings are found in the lower and central sections, carvings of large animals in the upper sections, and around them (or even in the upper relief section), the most simple carvings – sometimes simple cup marks.

Logically, I should not expect that there is only one ideal station model, but that instead in reality there must have been many different prototypes of organisation for the stations, depending on the character and function of each of them. In any case, a certain common basic model is recognisable, over which specific variations were later applied. This model is based on an organisation of the station and of the stations among themselves, articulated at three levels: central points, access points and lines which connect these spaces to each other, and integrate them within the landscape as a whole (Figure 9.1).

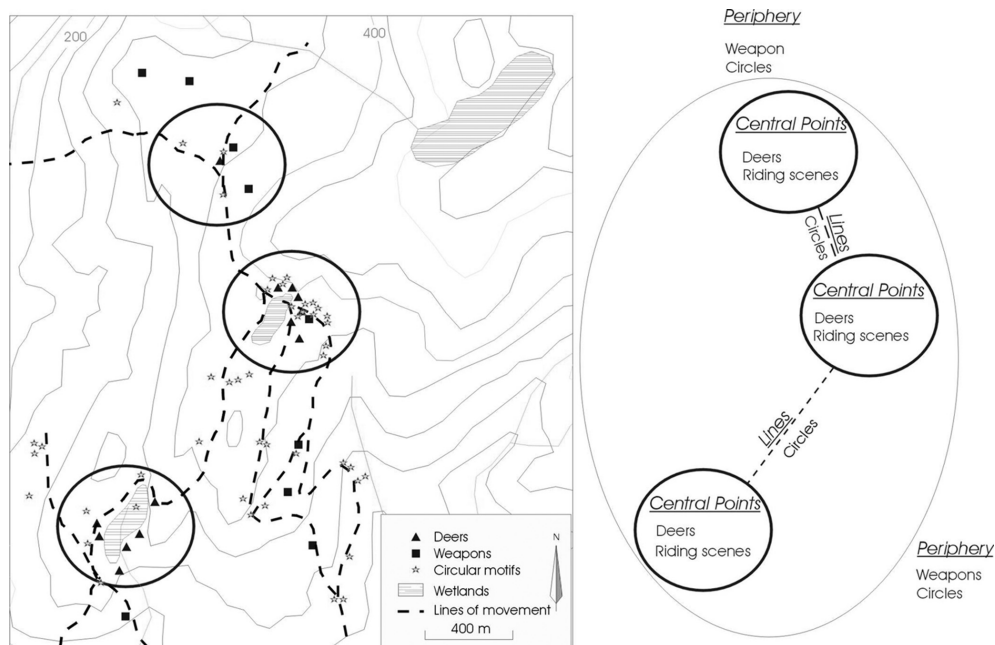


Figure 9.1: The Caneda-Fentáns area. Left, the distribution of Atlantic Rock Art Style designs and the relation with lines of movement and central points. Right, the structure of the rock art landscape.

This model is put into effect not only through the situation of the carvings and the use of the surroundings, but instead thanks to other resources including visibility and the relationships of visibility which connect the carvings with the environment. With some exceptions – mainly carvings found in ‘thresholds’ (which dominate large tracts of land for long distances) – the visual panoramas perceived from the carved rocks form enclosed areas. In this regard they are very different from those found in the monumental space of the Megalithic period (Criado, Villoch and Santos, 1997) which is circular, with their perception transmuted depending on the viewpoint adopted, according to how the monumental space is walked through and crossed. However, from the carvings, the visibility is faced to a specific direction.

From rocks situated in ‘corridors’ and ‘central points’ a restricted natural circle is controlled and delimited by artificial elements (neighbouring rock carvings which form the rest of the station), which are all visible at once in a single glance and from a single viewpoint. These panoramas include topographic circles, which correspond to areas of activity; visual spaces which are also functional for use and domination. Nevertheless, faced with a degree of ecological reductionism which has been defended in previous studies (for example Bradley, Criado and Fábregas 1994) in which rock carvings are essentially linked with areas with a concentration of resources (reserves of grasslands, a concentration of game, etc.), I believe that these areas were attractive to

the contemporary communities as they could be used for different purposes: subsistence and social aggregation, with a predominance of either or a combination of both.

Santos (1998) indicated the possibility that these spaces may well in some cases have had the primary function for periodic gatherings of social units who lived scattered in groups in the area. Here it is necessary to examine the relationship between the carvings and contemporary settlements. As it was a priority for them to have wetlands in the vicinity, and the rock carvings were continually linked to these types of spaces, it would be foreseeable that there may have been a positive relationship between both phenomena, and furthermore that the carvings may also have been used as markers for domestic space and the settlement.

However, this is not a frequent relationship, and although there are examples of it, one should rather suspect that they were an exception to the rule, as the carvings tend to be distant from the settlements. In the few cases where both are associated, this may be due to special circumstances. A similar case exists around the Vigo Estuary (Monte Penide-Redondela) where Fábregas (1999) found carvings close to possible Bronze Age settlements; due to the lack of inhabitable land in this region because of the steep hillsides and subsequent lack of flat areas, he argues that without varying the patterns of emplacement, carvings and settlements occasionally appear close to each other, although the carvings still mark the limits of occupiable territory in the Late Prehistory. Fábregas' study, however, is lacking the application of any criteria to define what he understands to be rock carvings in the Bronze Age, as the analysis includes all carvings regardless of their formal characteristics. Neither is there an explanation of the criteria which led the author to consider the discovery of ceramic fragments as a prehistoric settlement, as there is no analysis of any detail into the conditions of emplacement and of the technical and formal characteristics of the ceramics.

In the Tourón site (Ponte Caldelas, Pontevedra), where all the carvings would belong to the first millennium BC we do not find any evidence for domestic settlement from this period; only from Bronze Age (Santos 1996). This means that some sites were domestic areas before becoming sacred places.

Far from there being a positive and generic correlation between settlements and carvings in the Bronze Age and First Iron Age (2500–500 BC), there is a noticeable division between both phenomena. In Campo Lameiro rock-art park project; pollen analyses, phosphate analyses and archaeological survey indicate an absence of clear evidence about the possibility of the presence of domestic settlements in one of the most important rock art groups in this locality. In recent work several excavations found some possible hut structures (Bonilla & César in press), but no clear evidence for domestic activity such as pottery fragments; we can therefore interpret this posthole as a seasonal camp. This may be considered as the specific expression of the territorial significance of the carvings, *i.e.* that they would have served to mark these areas as belonging to a community which was not permanently linked to them. But before exhausting the interpretation from this perspective, which once again ends up turning to functionalism,

I prefer to consider rock art as a cultural means of domesticating space. I do not mean to deny that it does not have a specific function, but instead contributes to the radical deconstruction of functionalism which, sooner or later, reappears as a final explanatory resource in all modernist sociology.

This emplacement pattern defined for Galician rock art is similarly found, at least in some cases, in Scandinavian rock art. In Kville, according with the sea level in Bronze Age (Ling 2005), some marine passages exist with simple carvings representing ships, antropomorphs, zoomorphs, etc. We can consider these passages as lines of movement to reach the central area located in Torsbo – situated some hundred metres away from the sea. In Torsbo we can see the most complex carvings with large seized warriors, ships, bulls, etc. in the vicinity of a wetland. On the other hand, it has not been possible to find any evidence of domestic settlements in this area.

These would be the general outlines of the specific and ideal model of a system of representation (in the sense of codification) of space within representation (in the artistic sense) in Galician rock carvings. Considering the way in which this model arises from congruent relationships between such different scales of the phenomenon – such as the internal articulation of the panels, the emplacement pattern of the carvings, the organisation of stations and their relation to ‘humanised’ space – I posit that this study of space in artistic representation sheds some light on the constant rules which characterise this artistic style (Santos and Criado 2000, Prieto *et al.* 2003).

The context of art: the space of the representation

The formation of territories

If the distribution of inhabited sites and rock carvings from Late Prehistory are analysed from a regional perspective, it may be seen that their situation is not continuous, but that instead they are concentrated in specific geographical areas. As previously defined, detailed geographical analyses of the distribution of Late Prehistoric settlements demonstrate that these were adjusted within areas separated from each other, which may be considered as distinctive social territories. Within each of them, the situation of carvings and settlements tend to occupy spaces which are both different and in opposing areas.

Today archaeologists are aware of several ‘territories’ of this type: the *Bocelo* is one within the area formed by the high valleys of the Tambre and Ulla rivers; around Santiago we have defined the area of Nemenzo, Brins and the high regions of Ames; finally, in the pre-coastal region of the province of Pontevedra, in a total area of 1400 km², there are at least six areas of this kind, corresponding to: the highlands of Campo Lameiro-Moraña, Monte Arcela (in the highlands around Cotobade), Serra da Castrelada (in the highlands of Ponte Caldelas), Pazos de Borbén, pre-coastal hill ranges in Vigo, and the highlands of the Morrazo peninsula. This latter group is what most attracts my interest at present as it contains one of the most important areas for Galician rock carvings from the Bronze Age and First Iron Age. In any case one

should remark that the abundance of data offered by different yet somehow similar cases, does not only confirm the model, but instead it allows us to see that this is not only a phenomenon found in the southern coastal regions of Galicia, and – due to the special geographical conditions found in the area – it is also found among a high proportion of compartmentalised reliefs.

As already proposed elsewhere (Santos 1998, Santos and Criado 1998) I believe that each of these areas formed a distinctive social territory, occupied by a supra-local political unit formed by one or more smaller domestic groups. These groups would have regularly changed their areas of residence, although they would have always returned to the same settled spaces within the group formed by each area or territory.

What I am trying to demonstrate is that the territorial model is congruent with the technology of construction of social space, which is given by the codes of artistic representation defined before (Santos and Criado 2000, Santos 1998). Figure 9.2 offers an ideal model of the situation of the carvings in relation to social territories from Late Prehistory. I should rapidly revise the data, before moving on to a final characterisation (generic model) of the system of codifying the landscape which used this cultural context.

A domestic settlement is limited to some isolated and humanised territories, which are still surrounded by wilderness with difficult access. In the former, however, there are small basins suitable for pasture and settlement, surrounded by land suitable for crops; domestic activity is contained within enclosed circles (small valleys) which form part of a larger circle (the territory). Between these circles there are lines which communicate them with each other and integrate them within a larger network of circulation which is both circular and almost certainly cyclic. In the limits of the territorial circle, in the steep slopes of the hillsides, are natural pasture lands which form thresholds suitable for communicating with other territories of the same type, and/or to simply have access to the dense vegetation (Figure 9.2).

The settlements are in the centre; generally they do not have rock carvings, at least of any real significance, in the vicinity; what defines the terrain in areas of settlement appears to be above all the settlement itself; as far as I have seen, there would also have been systems of dividing the land in these areas formed by lineal ditches, which are now beginning to be uncovered and which would have divided the surrounding areas and imposed a sense of domestic order upon it. Burial sites, however, are found in the outskirts, in the woods, low-lying areas, hidden and wild: uncovered necropoleis are found in these types of terrain, far from the domestic area; they clearly show a strategy of making death invisible (or hidden) which takes shape in invisible constructions (cistas, ditches) in a hidden space (the green), and which is the complete opposite of domestic visibilisation strategies. Within this territorial organisation, rock carvings are the artifice which now marks the division between hill and valley, and marked the precise division between inhabitable, domestic and cultured space, and wild, leafy and funerary surroundings.

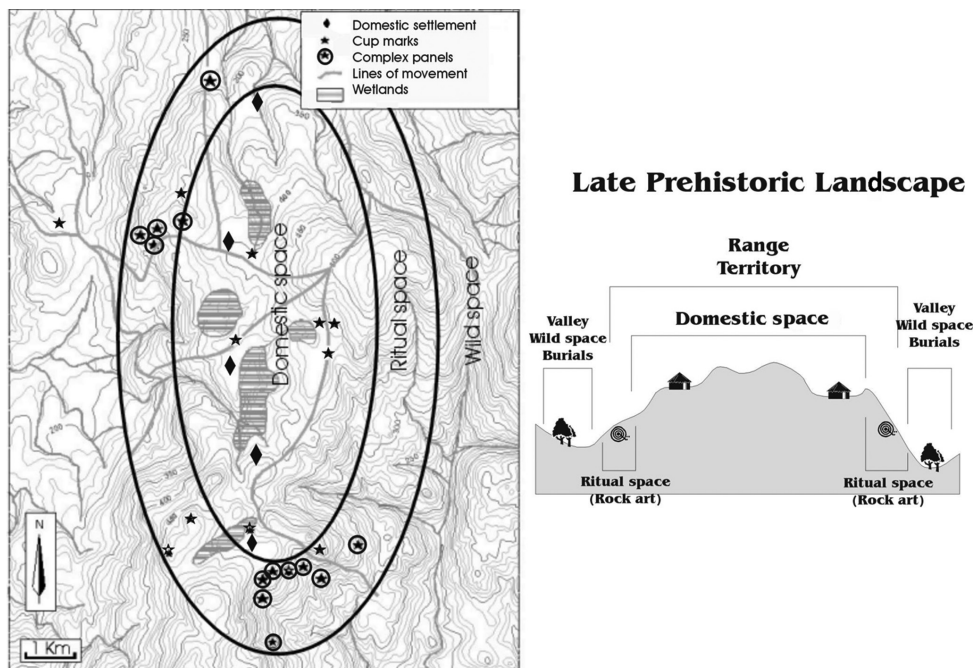


Figure 9.2: Example of a Late Prehistoric territory in Roza de Mateo-Moraña in western Campo Lameiro. Left, the distribution of domestic settlements, wetlands, complex and simple carvings. Right, the ideal profile of a Late Prehistoric territory.

In all of the significant points of the higher territories, rock carvings are found which indicate the main valleys, the lines which communicate them and also the exterior thresholds. Some of these are found connected with the central spaces and others with exterior thresholds; in both cases they may have been (or appear to have been) a point for introduction and contact, whether this was between different domestic groups from the same territory, or between groups from different territories. In these significant places, marked by concentrations of relevant rock carvings, areas for gatherings would have been formed. Is it possible to go even further?

Supra-local territories

In the previous lines I have raised the possibility of the existence of territories delimited by rock engravings. Due to their extension (Roza de Mateo-Moraña territory, in Figure 9.2, has 9 km North–South and 4 km East–West), these territories would be occupied by one or two communities. Nevertheless, it is possible to identify territorial units of greater size, as they could contain the mentioned local territories.

The possibility of the existence of these territories that I will call supra-local is based on the analysis of the distribution of rock art with weapons (Santos 2005). The motifs carved in the rocks with weapons are usually swords, daggers, halberds and so called scuti-forms (shield-shaped). These type of carvings are distributed

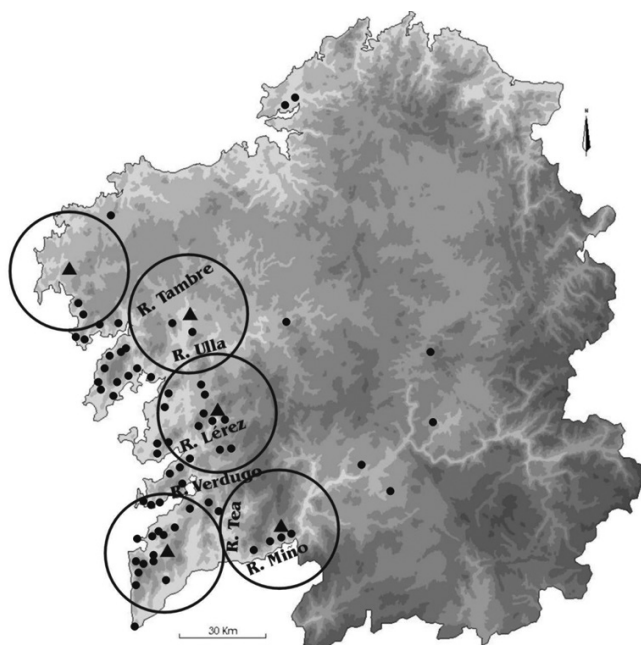


Figure 9.3: Petroglyphs with weapons in an active position (▲) with circles of 40 km diameter. The circles coincide with the rivers as natural borders. (●) Main rock art groups, carvings are located close to the coast or close to the biggest rivers.

approximately in a uniform way along the zone occupied by the Atlantic rock art, but to understand correctly the distribution of these type of carvings they must be classified based on the type of composed scenes. Basically there are two types of petroglyphs with weapons: the first type formed by daggers and halberds, is usually located on horizontal panels and the compositions seem to represent deposits. This group I call *petroglyphs with weapons in passive position*. The second type is formed by daggers, swords, halberds and generally by scuti-forms. This type of carving is located in almost vertical rocks and composes scenes that seem to represent a parade or a procession, this group I call *petroglyphs with weapons in active position*. If I observe the distribution of the petroglyphs with weapons in active position, I detect that they are located at regular distances; the distance between the groups from north to south for example are: 46, 34, 50, and 40 km. These distances coincide with the covered distance by a pre-industrial transport that usually are 32 and 40 km (Ruiz-Gálvez 1998, 93). Peculiarly, in almost all the cases the intermediate distances between the groups coincide with the beds of the most important rivers that end at the western coast. This circumstance seems to suggest that there in the Bronze Age there could have existed territories with a petroglyph with weapons in active position in its centre and, that the more important rivers could have represented borders (Figure 9.3).

The possible existence of these territories seems to be supported by the distribution of some designs that only appear within these supra-local territories, for example, in the possible territory located to the south of the River Verdugo, the carved red deer are very rare, however to the north of this river they are abundant; also, panels with red deer are scarce to the north of the River Ulla. Another example is the so called rupestrian mills. They are manual mills carved in rocks and are frequently associated with the panels with Atlantic style designs. This type of device is almost exclusively found to the south of the River Verdugo.

A different interpretation may be proposed for these sites with carved weapons. It may be suggested that they could have been spaces for encounters of groups of warriors who were organised into 'brotherhoods' of a supra-local or tribal nature which, according to all the archaeological indications obtained, would have been the dominant social group in European societies from Late Prehistoric times, and also in Galicia (as Vázquez Varela (1990) has shown in previous studies). In the places where these carvings are found, there are wide, open spaces where rituals could have been carried out, together with the typical games and other entertainments typical of warriors.

Whatever the case, it is not necessary to accept the existence of ceremonial gatherings of warriors to propose the likely hypothesis that the most complex carvings and stations (with representations of weapons or of other types) may, in reality, have been spaces for social and ritual gatherings. Their exceptional formal characteristics, together with their central position within the area, and the distinctive characteristics of their emplacement on physiographical units which are conspicuous at a great distance (from 10 to 30 km away), correspond to this hypothesis. A constant and almost defining characteristic of these types of spaces is having consolidated a long-lasting tradition, either because they continued with the prestige of a previous tradition (which in this case would represent the existence of significant concentrations of previous sites), or because they served as a foundation for the creation of a new cultural tradition (a possibility represented by the juxtaposition of sites from later times). Both situations may be verified by using detailed empirical studies.

Sacred places and long-lasting tradition

A particularly noteworthy example of this continuity is offered by the previously analysed area of Caneda. Here we were able to isolate an uninterrupted sacred tradition (Criado, Santos and Parceró 1997, Santos, Parceró and Criado, 1998, Parceró, Santos and Criado, 1998), through the magnificent concentration of carvings which appeared in the Bronze Age and which have continued through the Iron Age, the Middle Ages and up to the present day. In the Iron Age, new carvings were made which indicated a route up to the rocky summit which, in Roman times, was marked with indigenous Roman inscriptions. In the Middle Ages or Modern period, a hermitage was built nearby which is still today the scene of an annual religious procession bringing together local inhabitants. The trans-cultural continuity throughout prehistoric, proto-historic and

historic periods means it is possible to suggest that this area was originally a sacred space or sanctuary which was a legitimising element of a more wide-ranging socio-political functionality.

Another good example of this type is the carving of the Castriño de Conxo, close to the city of Santiago de Compostela. Following the previous analysis, we will be able to make a better interpretation of its significance with regard to social territories from the Bronze Age in the area around Santiago. This carving is exceptional for various reasons: in particular for its representations of weapons, but also because it is a very complex rock, incorporated at a later date into a second Iron Age hillfort, situated nonetheless in a marginal position with regard to the main nucleus of Galician rock art, and in which the carvings are therefore small in number and of poor iconography.

This particular carving is equidistant between the 'territories' of Nemenzo, Brins and Ames. It is actually situated at an intermediary point between them which makes it possible to directly connect the three. The carving of Castriño de Conxo is located in a short distance from the tomb of the Apostle St. James (less than 1.5 km away). Both sites are situated in the same physiographic area in a prominent ridge, and the rock art site could have been the starting point for a long-lasting tradition of gatherings which starts in Bronze Age and culminated with the tomb of St. James in Middle Ages.

The structural code of the landscape with rock carvings

This system of representation may be read from different codes, in different levels. As a symbolic code it would express the human domination of nature. As a code of metaphorical references, it indicates that the domestic world is above and the wild world below. As a code of practical references it identifies the specific distribution of resources in a given area, areas set aside for hunting, areas with wetlands and areas of transit. As a code of details or specific cartography, it reproduces the model of a specific area and communicates to the viewer what they are going to find and where. This is precisely the code which was tested and documented in the carving of Pedra das Ferraduras in relation to the Caneda area (see Criado Boado ch. 8, this volume).

Yet I believe that I have managed to push this point further and thus found that through the carving a much wider and more complex system of spatial representations is transmitted; at work is a technology of organisation and articulation of all the levels and dimensions of space.

I believe that this simplified and final outline synthesises very well the implicit meaning in this technology of spatial representation. The world becomes vertical, organised not only in horizontal panels, but panels that are joined in friezes which vary vertically; each of their messages remains horizontal but changes in the vertical dimension. This means that in order to perceive the representation, it is necessary to view it vertically, from top to bottom or vice versa. Looking at it thus, one sees the friezes which organise a modified world, or one governed by human action, and perceives the layers through which the world is ordered.

This is the space of the first heroic societies, rural dwellers who became more complex as they turned towards a peasant economy, over whose expropriated labour the warrior was established, or, at the very least, inequality and exploitation at the heart of the domestic group.

Yet this spatial model is the same as that of bell-baker pottery (Prieto 1999, Cobas *et al.* 1998) although that is very much another story.

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